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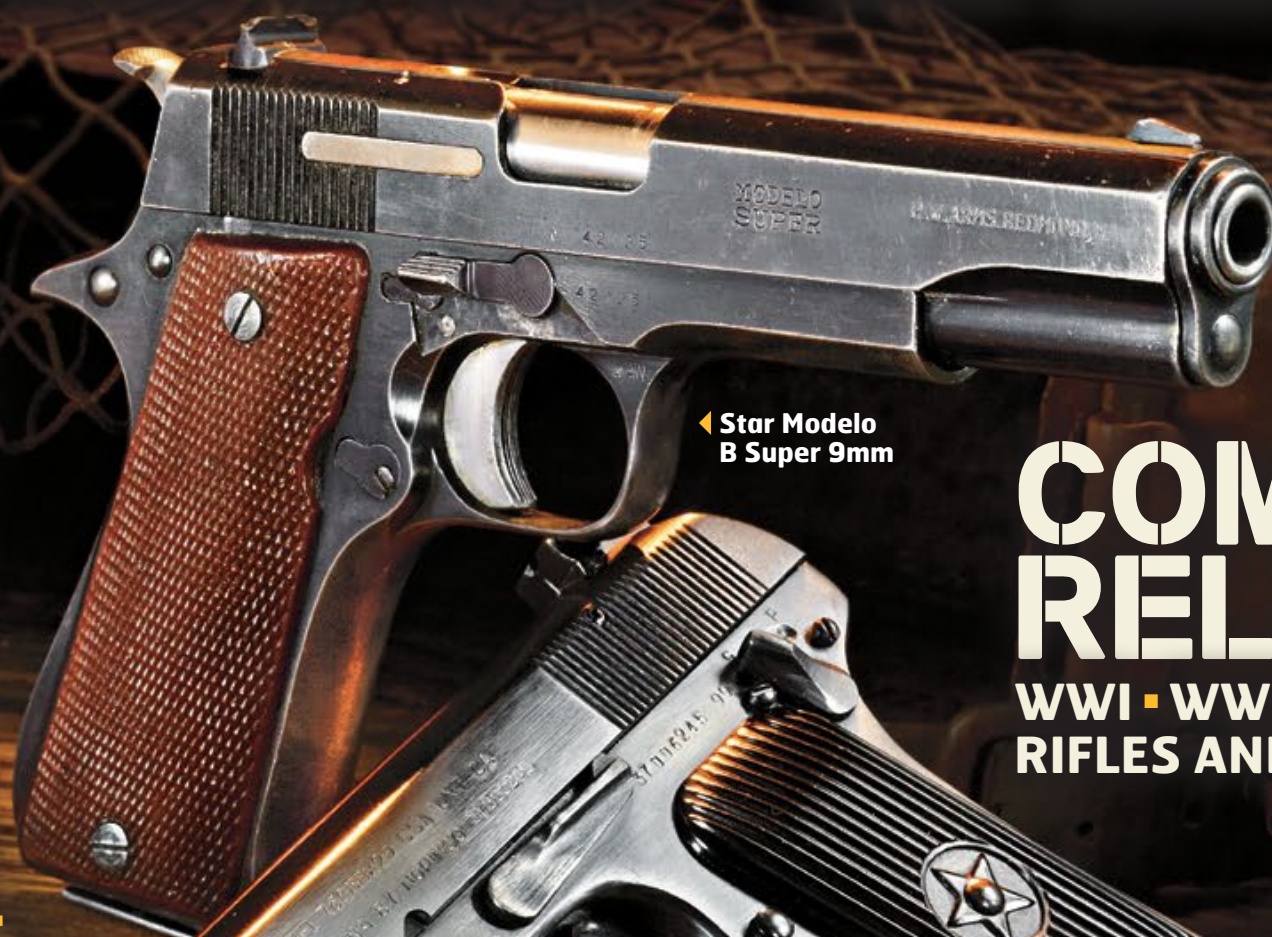
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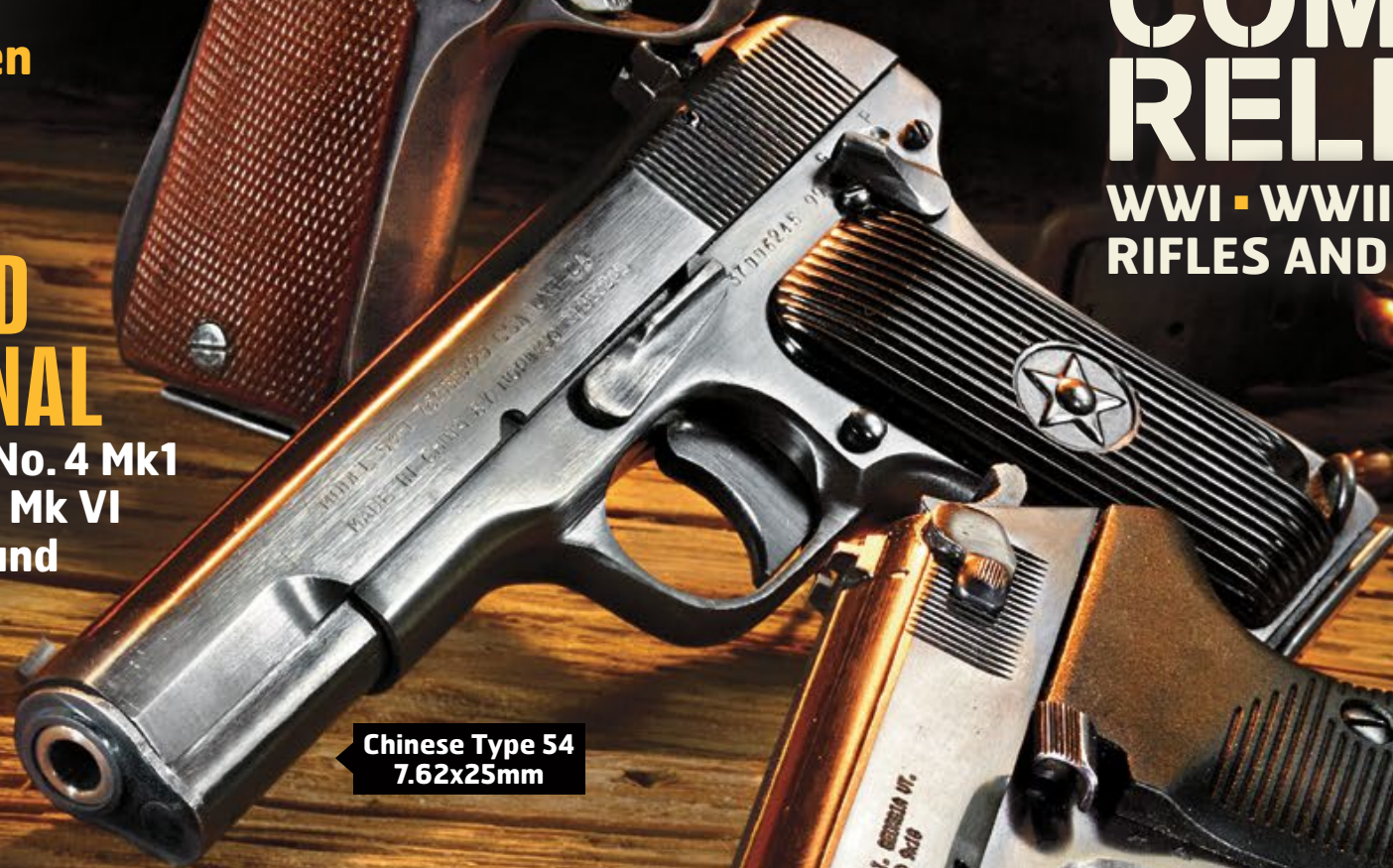
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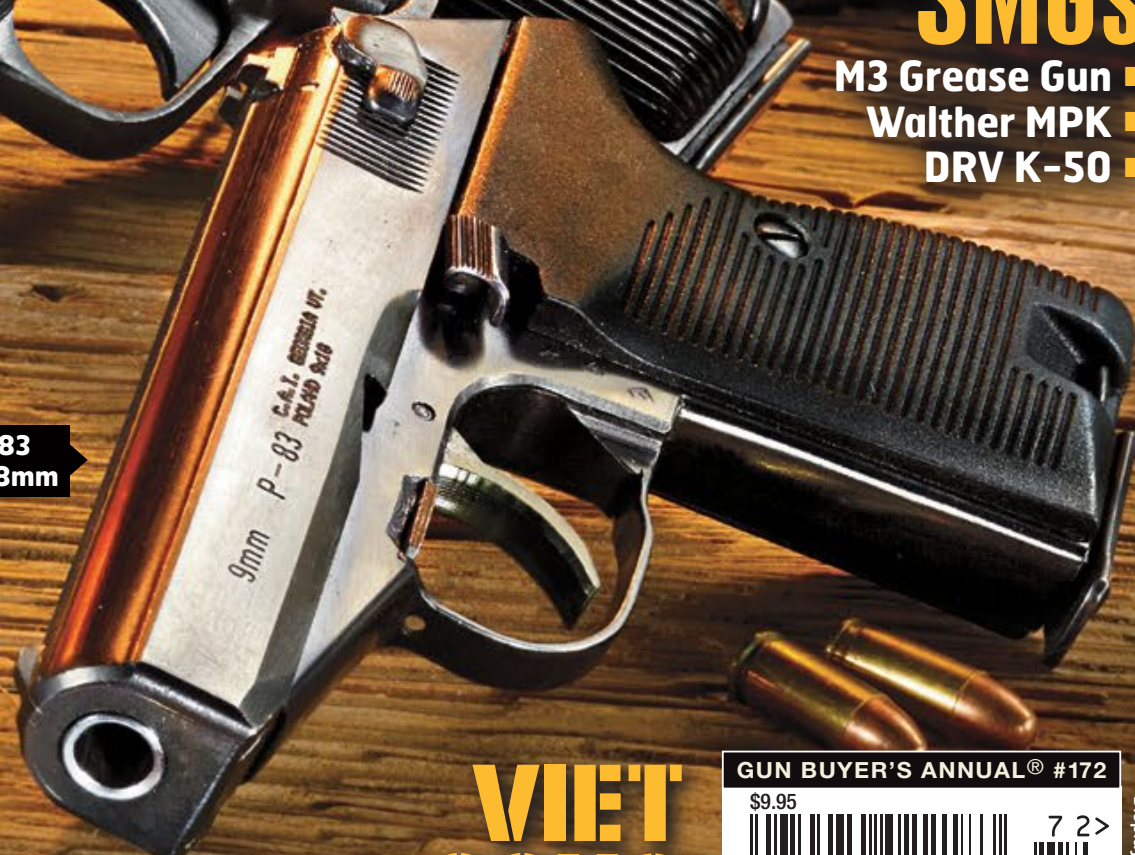
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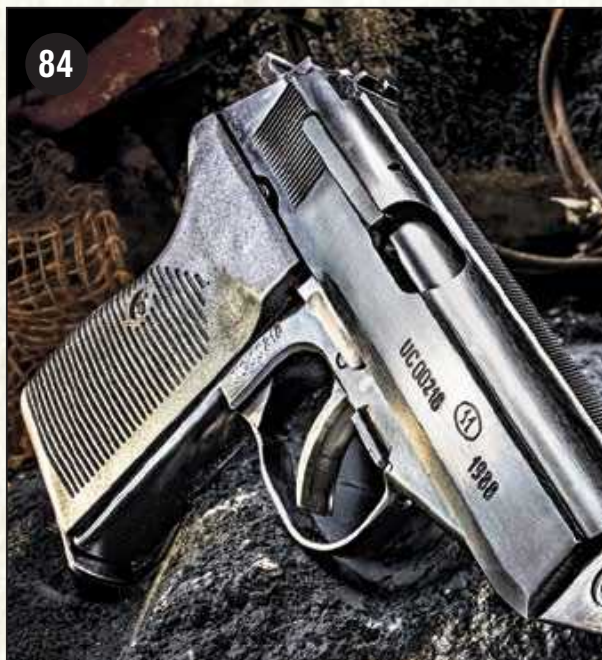
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MILITARY SURPLUS™

2016

The subject of “military surplus” is a fascinating one. This is due not just to the types of guns and gear that can be covered, but also to the breadth of history that the subject can span. From modern-era firearms such as the Beretta 92S and the Yugoslav M70 B1 AK-47 to 19th century equipment like the French Chamelot-Delvigne 11mm revolver and the instantly recognizable “sun helmet” made famous by the British military, the sky is the limit when it comes to this intriguing subject.

This brings us to the fourth installment of *Military Surplus* magazine. In this issue, we have worked to provide you with a broad selection of interesting historical firearms and gear. Want to learn the in-depth history of weapons such as the German StG44, the British No. 4 Mk 1* and the M3 “Grease Gun”? How about some amazingly accurate air gun reproductions of iconic military pistols that provide you with an opportunity to do some low-cost shooting with some military classics? Want to step up to some rimfire reproductions of some wartime weapons? We have some great options for you to consider in this issue.

Looking for something a bit more esoteric? Then read on about the history of the blank-firing Italian *Balilla* carbines or the radically innovative and ultra-rare Pedersen Device, a semi-automatic adaptation of the M1903 rifle that never had a chance to prove itself in battle. We also have a very interesting piece on the weapons of the Viet Cong, covering not only ComBloc weapons provided to them but also crude but interesting handmade weapons made in the jungles of Southeast Asia.

What about handguns? Read our piece on the fascinating Colt 1905, an older brother to the iconic 1911 and a design that influenced the latter’s eventual form.

How about some pistols heavily influenced by John Moses Browning’s iconic creations? Then take a look at pieces on the Type 54 Chinese Tokarev and the Star *Modelo B Super*. How about something a bit more compact? Then read on about the Polish P-83 Wanad, a rugged 9x18mm pistol that took advantage of ultra-modern manufacturing techniques in its design and production. Interested in the admittedly odd but historically significant Japanese Nambu family of pistols? We have all the info you need right here.

We are very appreciative of the positive feedback we have received from readers regarding our previous issues and have worked very hard to bring you a new edition that lives up to what we believe are your expectations for this magazine. Have no doubt, we will strive to provide you with an extremely high-quality, well-researched and beautifully illustrated magazine that lives up to the title *Military Surplus*. We believe that the subject as well as you, the readers, deserve no less. Accept no substitutes.

— Michael O. Humphries



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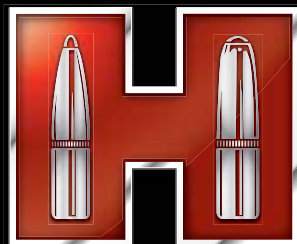
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The select-fire StG44 military rifle was a revolutionary design. This particular example was made by Haenel in Suhl, Germany, in February or March of 1945. The receiver was left in the white, but the rest of the gun was blued. Despite its crude finish, this gun is accurate, controllable, rugged and reliable.

• • •

**The paradigm-shifting
8mm Kurz StG44 has
influenced small arms
design through to today!**

By Glenn M. Gilbert

PHOTOS BY HANNELE LAHTI

The StG44 was the first service rifle designed to match the realities of the modern battlefield. Every rifle that came before it, whether a slow bolt-action or a semi-automatic with limited magazine capacity, had surrendered its close-quarters responsibilities to other small arms like pistols, shotguns and submachine guns. Using a medium-power, mid-range cartridge, the StG44 was as controllable as most submachine guns were during full-auto fire. Accurate out to 300 yards, it was useful as a carbine as well. In fact, the StG44's performance was so revolutionary that its name, *Sturmgewehr*, which is German for "assault rifle," was bestowed on a new class of select-fire service rifles inspired by the StG44.

The story of the StG44 starts with the aftermath of World War I. The German Army's surveys of infantry combat found that most riflemen rarely fired their weapons at ranges beyond 400 yards. However, most military cartridges, including the 8mm Mauser, were designed to maximize the service rifle's range. Prior to WWI, generals in every European army still envisioned 19th century battlefields where massed men fired volleys at other groups of massed men.

GERMAN STURMGEWehr



The MP43/1 variant was fitted with a quick-detach scope rail on the right-hand side of the receiver. The rail was compatible with the same ZF4 scope used on the semi-automatic G43 rifle.

BundesArchiv Photo



GERMAN STURMGEWehr

But these generals soon discovered that 20th century firepower made that impossible. In order to survive a battle-field dominated by machine guns and quick-firing artillery, infantrymen had to spread out and take cover. Individuals or small groups found it necessary to cover ground in rushes and aim at individual targets, since the enemy rarely appeared in large groups.

Taking these lessons to heart, the German military investigated the possibility of eliminating the unused long-range performance of its service-rifle cartridge, in hopes that the reduced recoil and energy would be compatible with controllable fully automatic operation. In their eyes, they were trading away power that was never used anyway, except by snipers and the most gifted marksmen in the unit. The full-auto firepower would then maximize the effectiveness of every soldier.

In 1936, Polte Ammunition Works developed the 8mm Kurz (*kurz* means “short” in German) cartridge at the request of the German Army Ordnance Board, known as the *Heereswaffenamt*, or HWA. It used the same case base as the 8mm Mauser, which was bottlenecked but had an overall length that was reduced from 57mm to 33mm. The resulting 7.92x33mm “8mm Kurz” also used a shorter, 124-grain, spitzer bullet that was significantly lighter than the 198-grain projectile used in the full-power 8mm Mauser.

CARBINE FACE-OFF

With the critical work of cartridge development done, the HWA asked Walther and C.G. Haenel to develop a select-fire carbine that could make the most of the new cartridge. Haenel’s carbine was designated the MKb42(H), and the Walther gun was dubbed the MKb42(W). Both guns were similar up to a point: They were select-fire weapons that fired from the open-bolt position on full-automatic and from the closed-bolt position on semi-automatic, they were built from a significant number of stamped-steel components for rapid production and both used the same detachable, 30-round magazines. Where the



The in-line stock allows for faster follow-up shots, but its design requires extremely tall bases for the front post and rear sight blade. Both the front and rear sights are fixed for elevation and windage, but the rear sight has a slider that adjusts for range.



The safety and selector are within easy reach of the user’s thumb. In addition, the large mag release rests under the thumb of the firer’s support hand when he wraps his fingers around the magazine.

weapons differed was in their operating systems—the Haenel gun’s mechanism was very simple, while the Walther’s was overly complex. Thousands of Haenel and Walther MKb42 carbines were built for field trials in 1942.

Both designs proved to be very popular with the troops. The guns were accurate and controllable on full-auto, so they doubled the firepower of any unit lucky enough to receive them. Not surprisingly, troops and commanders involved in the field trails immediately

wanted more MKb 42 carbines and 8mm Kurz ammo. HWA considered the Haenel design more promising, so it dropped the Walther gun and asked Haenel to further refine and simplify its MKb42(H). Haenel’s improved gun would fire from a closed bolt on both full- and semi-automatic. In addition, the weapon’s gas expansion chamber in front of the piston, deemed unnecessary, was eliminated.

By any standards, the MKb42 was a winner. It was battle proven as well as

“Using a medium-power, mid-range cartridge, the StG44 was as controllable as most submachine guns were during full-auto fire.”

cheap and easy to produce. There was, however, one problem, and it was a big one. Hitler was adamantly opposed to the MKb42 project, as his own combat experience during WWI left him convinced that the bolt-action K98 was all a soldier needed; he wanted the MKb42 project scrubbed immediately. However, the HWA knew it had something that would potentially revolutionize infantry tactics and give German soldiers a decisive edge in close combat.

UNDERCOVER R&D

So the HWA did the only thing it felt it could do under the circumstances—it hid further development and production of the MKb42 from Hitler and ramped up its production as much as possible. The HWA renamed the carbine the MP43 (*Maschinenpistole* 1943), hoping to disguise it as a new submachine gun. The name change did the trick. Submachine guns didn't interest Hitler, but he was not opposed to them. Production and after-action reports from the front were camouflaged under the new name or buried beneath mountains of bureaucratic documents.

The revamped and renamed MP43 was a significant improvement over the MKb42. It was more reliable and easier to manufacture and therefore more numerous. Tens of thousands were made and issued exclusively to troops on the Eastern Front. This time, its distribution was much broader, including to mountain troops, light infantry and mechanized infantry. Before long, the MP43's battlefield impact and popularity among the troops became impossible to hide.

Hitler reserved the right to personally present the highest grades of the Knight's Cross. He didn't trust his generals, so this was a way to maintain the troops' loyalty and get an unvarnished view of the front. After a series of desperate battles during the winter of 1943-1944 that involved his most elite and trusted *Waffen-SS* troops, he asked, "What do you boys need?" Much to his

surprise, they enthusiastically replied that they needed more select-fire MP43 carbines—the cat was now out of the bag. Vexed, Hitler was faced with two options: kill the MP43 and risk alienating his troops, or somehow redeem it by making it his own idea. He chose the latter. Hitler renamed the MP43 as the *Sturmgewehr* 44, and the rest is history. For the second time in a year, the MKb42 program was ultimately saved by changing its name.

When the Haenel gun was chosen over the Walther in 1943, Walther dropped out of the MKb42 program so it could focus on producing G43s and P.38s, but the MKb42's legitimacy opened up vast new resources for production. In all, four companies were put to work making StG44s: Haenel, Erma, Steyr and J.P. Sauer.

The MP43, MP44 and StG44 are all the same gun, and their parts are interchangeable. Only the MP43/1 is an outlier. It has a built-in scope rail, similar to the one on the G43, and its barrel is slightly thicker, so an MP43/1

barrel cannot be mounted on an MP43, MP44 or StG44 and vice versa. The different names didn't signify any physical changes in the gun, but you can find numerous small differences in finish and furniture.

For example, the reinforcing ribs on the upper receiver evolved over time. And at some point during MP43 production, the Germans switched to a stock with smaller dimensions that was compatible with K98 vehicle and barracks storage racks. But none of these changes or simplifications is related to changes in the gun's name. Most of the guns were stamped "MP44". Those stamped "MP43" are the second most common, while those stamped "StG44" are relatively rare.

EFFICIENT DESIGN

Hugo Schmeisser was the lead designer at Haenel, and the Haenel MKb42 and its progeny, the StG44, were his creations. Schmeisser worked for the manufacturer Bergmann during and after WWI. During that time, he designed the first successful purpose-built submachine gun, the MP18. Twenty years later, a rival group of designers from Erma incorporated the MP18's unique telescoping recoil-spring housing into its MP40 prototype, much to Schmeisser's chagrin. By any historical standards, he was a gifted small-arms designer.

Schmeisser chose simple and proven design elements for the StG44, including long-stroke gas piston operation and a Blish-style locking system for the bolt, and combined them with modern and economical manufacturing techniques ideally suited for rapid production, such as precision sheet-steel stampings like those used in the MP40 and MG42 designs.

The tail of the StG44 bolt locked into a well at the rear of the forged-steel action block, while the 16.5-inch barrel was pinned to the front of the action block. The stamped-steel upper receiver wrapped around the action.



Paul Scarlata Photo

Jaeger infantry units received the first experimental StG44 rifles. They had limited armor and artillery support, so they treasured the extra firepower.

GERMAN STURMGEWehr

A combination of welds and matching contours hold the action block in place. The rear half of the upper receiver resembles two tubes stacked one on top of other: The bottom tube serves as a housing and a raceway for the bolt, while the top tube serves the same functions for the gas piston assembly.

Hooked ears and angled surfaces on the bottom of the piston lift the tail of the bolt out of its locking recesses at the rear of the action block. Nested behind the bolt/piston assembly is a very large coiled-steel recoil spring. During the firing cycle, it compresses into a recess cut into the wooden stock. Baffles on the piston and a pair of circular vents in the stamped-steel gas tube minimize stress on the working parts. A plug threaded into the front of the gas block allows access to the gas tube for cleaning and maintenance. A very trim stamped-steel handguard shrouds the barrel between the face of the upper receiver and the gas block. Like the upper receiver, the lower receiver is a stamped-steel assembly. It serves as a pistol grip and housing for the trigger components. The front of the lower receiver is hinged to the upper receiver at the rear of the magazine well.

A single takedown pin connects the wooden stock, the upper receiver and the lower receiver. Pushing out the takedown pin and pulling the stock to the rear allows the rear of the lower receiver to swing down and away from the upper receiver. As the rear of the lower receiver falls downward, the front hangs on a hinge pin at the rear of the magazine well. The hinge pin is fixed and can be driven out by an armorer gunsmith, but it was not meant to be removed during field-stripping or everyday maintenance.

A charging handle fixed to the piston travels in a slot on the left-hand side of the StG44, so you work it with your support hand. The safety lever is also on the left-hand side of the gun, just above the trigger, and has a rather short 60-degree throw. Pushing down with your thumb readies the gun to fire and reveals an “F” for fire, which is stamped into the side of the assembly. Pushing up on the lever engages the safety mechanism and reveals an “S” for safe. Just above and



The StG44's ejection port cover (left) is hinged at the top and flips open when the gun is fired. Working the selector button (right) is much like operating a gun with a crossbolt safety. The “E” stands for *einzelfeuer*, or semi-automatic fire.



Most later-production StG44s like this one have a stock that is slightly shorter in height. Like the M16, the stock also houses the recoil spring.

forward of the safety lever is a select-fire button that works much like a cross-bolt safety. Pushing the button left reveals an “E” for *einzelfeuer* or semi-automatic. Pushing the button to the right reveals a “D” for *dauerfeuer* or full-automatic. A very large, circular magazine-release button is on the left-hand side of the magazine well. This arrangement of controls creates an interesting setup. You work the trigger, safety and selector with the fingers and thumb of your firing hand, but you manipulate the charging handle and magazine release with your support hand.

The StG44 has a long, two-stage trigger pull much like the M1 Garand's. In addition to the thumb safety, it also has a bolt safety. When the bolt is out of

battery, the bolt safety blocks the movement of the trigger so it can't release the hammer. Schmeisser felt that this feature was necessary in a carbine capable of fully automatic fire.

The rear sight is a blade with a V-notch mounted on a raised base that's located about halfway down the top of the receiver. With a sliding ramp indexed to 800 meters, it is adjustable for range. The front post is dovetailed to the top of a tall base pinned just behind the muzzle. A sheet-steel hood protects the post.

The MP44/StG44 is a big carbine. It is both longer and taller than an AK-47, and the extra length of its receiver prevents the bolt from bottoming out inside of it. This ensures that

the shooter never perceives the bolt's movement as part of the recoil impulse. Combined with the inline stock, the smooth travel of the bolt is a big part of what makes the StG44 very manageable even on full-auto. Remarkably, I have found it to be as controllable as an MP40 or even an M4, given that the 8mm Kurz and the AK-47's 7.62x39mm round have nearly identical ballistic performance. Both rounds fire 124-grain spitzer projectiles and have bullet drops within an inch of each other at any given range when the loads are zeroed to the same distance.

The StG44 hits as hard as an AK, but it is as controllable as an M4. The StG44 also shares the AK-47's range limitations. The StG44's maximum range is really 300 yards because, at that point, the bullet starts sinking like a stone. The StG44 not only is bulkier than an AK-47, but it also has a longer mag, which is gently curved. The comb is tall, so you get a good cheekweld, and the curved shape of the butt sinks into the shoulder pocket. The pistol grip is nicely raked and fills the hand. In sum, the contour and size of the stock and pistol grip greatly enhance its controllability on full-auto. One sticking point is the handguard. It is thin and wraps tightly around the barrel, so it gets hot fast. During sustained full- or semi-auto fire, a shooting glove for the support hand is almost a necessity.

MODERN WARFARE

Early MKb42 and MP43 test runs were limited to light and mountain (*Jäger* and *Gebirgsjaeger*) units. The HWA hoped that a “pure” infantry environment would create the best laboratory for these experimental small arms. Also, given that these light infantry units were short of artillery and mortars, they were most in need of the extra firepower. Later on, after the MP44/StG44 was legitimized and became more numerous, it was issued to every kind of infantry unit, including mechanized, motorized, regular, light and elite mountain units. Paratroopers got some as well, even though the *Luftwaffe*, which controlled the paratroopers, was not supportive of the MKb42 program.



Like those found on the guns, the markings found on the magazines vary widely. Examples marked StG44 (left), MP44 (right), MP43 and MKb42 abound, and they are all completely interchangeable.

• • •

Wanting a full-power automatic rifle in 8mm Mauser, the *Luftwaffe* started a project of its own, the FG42. It was a great gun, but it proved to be almost impossible to mass-produce, at least during wartime. Officially, the *Luftwaffe* preferred the G43 over the StG44 because it shot the full-power 8mm Mauser, but once its paratroopers tried the StG44 it dropped its opposition. Frontline paratroopers embraced it, even if the *Luftwaffe*'s ordnance and staff officers looked at it a bit sideways.

Clearly the goal of the whole MKb42 project was to create a carbine that could replace the K98 entirely. It had to be more than a submachine gun—it had to be a carbine, too. But if it was going to do that, it had to be capable of fulfilling all the various roles demanded of a 20th century military service rifle. Was it accurate enough to be a sniper rifle? Was it sturdy enough to launch grenades? How was it to be used in hand-to-hand combat? Could it take a bayonet? At the end of the war, these questions remained unanswered, and the StG44 was a still a work in progress.

Experiments were done with launching grenades. A variant with a scope mount was tried out, but it was dropped to speed production. The Mkb42's bayonet lug was dropped for the same reason.

Most units got some StG44s, but certainly not as many as they wanted or needed. Some units distributed them one or two per squad, supplementing MP40s rather than replacing them. Others concentrated their allotment of StG44s in assault platoons, companies or battalions as much as logistic circumstances permitted. These assault units, equipped entirely with StG44s and MG42s, used their concentrated firepower to plug holes in crumbling defensive lines or launch shockingly effective counterattacks.

To frontline soldiers, the StG44's qualities were self-evident—it was a carbine and a submachine gun all in one. Over 425,000 MP44s were made, but the problem was in getting them to troops at the front as the German military's transportation and logistics networks had all but collapsed toward the end of World War II. But where the StG44s showed up in significant numbers, they made an impact on the battlefield—not enough to turn the tide, but enough to make the last six months of the war a lot bloodier, especially on the Eastern Front.

Although the StG44's impact on WWII can be hard to measure, its influence on the modern battlefield is certainly clear. Apart from its status as the first real assault rifle made in huge numbers and widely issued, its influence can be seen in the AK-47, M16, G3 and FAL. It is the father of all the military assault rifles and the first rifle truly suited to modern war. ■

Specifications:

StG44	
CALIBER:	7.92x33mm
BARREL:	16.5 inches
OA LENGTH:	37 inches
WEIGHT:	10.2 pounds (empty)
STOCK:	Wood or Bakelite
SIGHTS:	Front hooded post, adjustable rear notch
ACTION:	Piston-operated select-fire
FINISH:	Blued, Parkerized or clear phosphate
CAPACITY:	30+1

Three Chinese soldiers pose for a propaganda image sometime in the 1970s. The soldier at the far right is holding a Type 54 pistol.



CHINESE TOKAREV

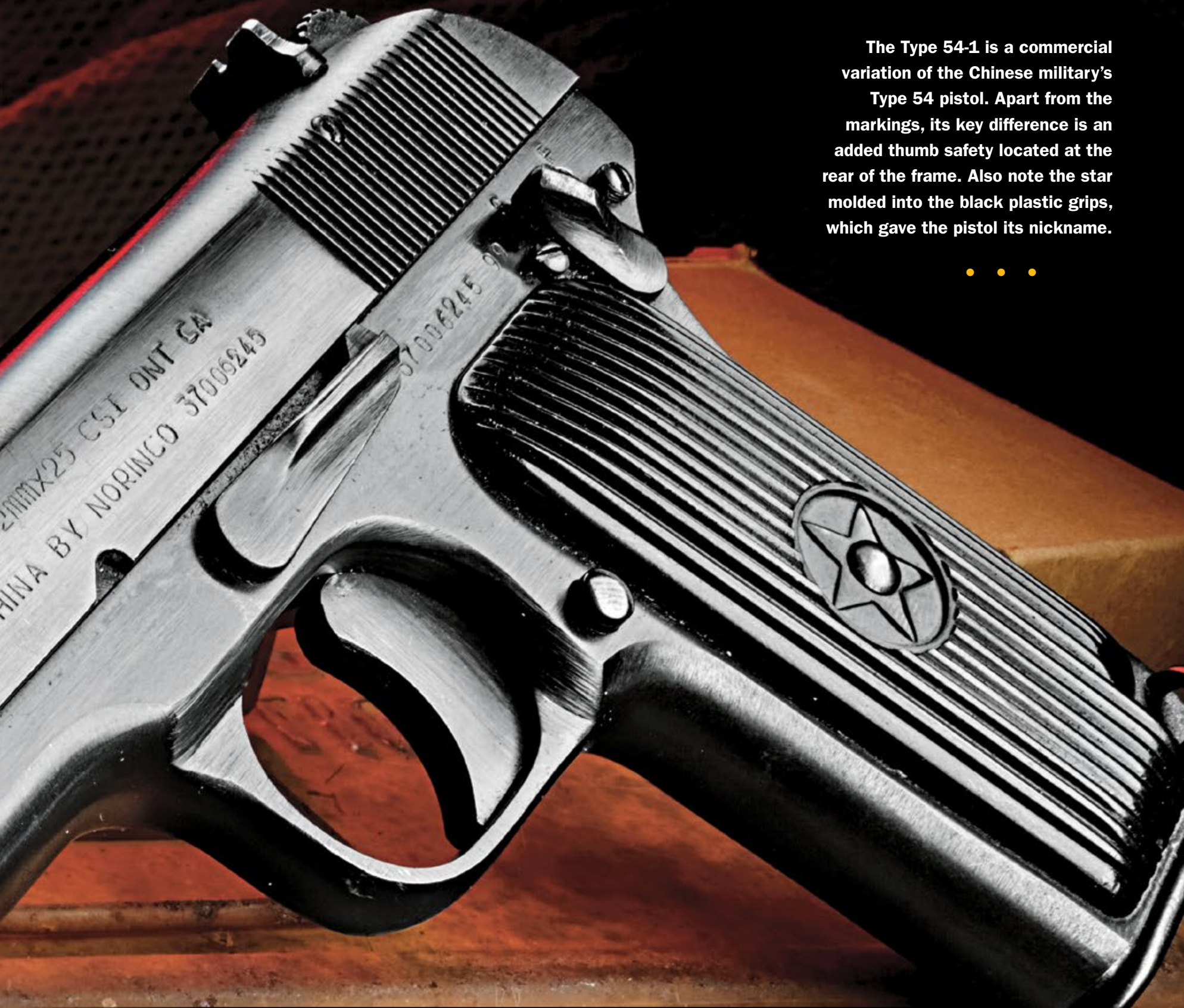
Based on the Russian TT pistol, the 7.62x25mm Type 54 is one of the most manufactured small arms in history!

By Maxim Popenker

PHOTOS BY STEVE WOODS

The People's Republic of China, which was and still is ruled by the Communist Party of China, established close military ties with the Soviet Union as soon as Mao Zedong came to official power. In fact, Chinese communists received significant military aid from the USSR from the late 1930s onward, and the newly established People's Liberation Army (PLA) and the People's Armed Police (PAP) were heavily oriented toward Soviet armament systems.





The Type 54-1 is a commercial variation of the Chinese military's Type 54 pistol. Apart from the markings, its key difference is an added thumb safety located at the rear of the frame. Also note the star molded into the black plastic grips, which gave the pistol its nickname.

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During the late 1940s and early 1950s, the Soviet Army began an extensive rearmament program, which freed up a lot of surplus military weapons as well as machinery to make them. Plenty of the machinery and parts ended up in China as military and industrial aid, accompanied by Soviet engineers and military advisors. Among other weapons that became obsolete in the USSR and were transferred to China was the Tokarev TT pistol.

RUSSIA'S GIFT

The Tokarev TT was originally adopted by the Soviet Army in 1931, and after minor modifications in 1933 served with distinction through World War II. During this period, it was produced in significant numbers at several factories. In the USSR, the TT was officially declared obsolete in 1951, and after that date it was gradually replaced by the new, more compact, more reliable and noticeably safer to handle 9mm Makarov PM pistol.

“The Type 54 is popularly known in China as the ‘Black Star’ pistol thanks to a five-pointed star molded in the center of each plastic grip panel.”

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The PLA originally adopted the Tokarev TT handgun in 1951 as the Type 51 pistol. These guns were assembled from a mix of Soviet and domestically produced parts and differed from Soviet pistols only in their markings. By 1954, Chinese factories were geared up to make TT pistols themselves, and these domestic variants were later adopted by the PLA and the PAP as the Type 54 pistol. It fired the same 7.62x25mm ammunition as its Soviet parent. This ammunition is known in Chinese service as the 7.62mm Type 54 pistol cartridge. The Type 54, while externally and mechanically similar to Type 51 and TT, had a slightly slimmer grip.

Type 54 pistols served as primary

sidearms for PLA and PAP personnel until the adoption of a new small arms system, which occurred sometime during the first decade of the 21st century. This new system called for new pistols and submachine guns chambered in China's proprietary 5.8x22mm cartridge for the military and 9mm for the police. However, due to the large amount of personnel within the PLA, the PAP and other armed services, the changeover is still far from being complete, and lots of army and police personnel in mainland China are still issued Type 54 handguns.

The Type 54 is popularly known in China as the “Black Star” pistol thanks to a five-pointed star molded in the center of each plastic grip panel. Besides China, these pistols were officially exported to serve as government-approved military sidearms to a number of countries, including Angola, Bangladesh, Cambodia, Guinea, Laos, Mozambique, North Korea, Pakistan, Sudan, Vietnam and Zimbabwe.

One Chinese source claims that by 1987, more than 35 million Type 54 pistols were produced by Chinese state factories. Even if this number is off by a magnitude of 10, meaning that the actual number of guns produced is

only 3.5 million, this still makes the Type 54 pistol one of the most produced

handguns in history. By comparison, between 1930 and 1951, Soviet factories produced about 1 million TT pistols, and U.S. factories produced “only” about 2.5 million of the M1911 and M1911A1 pistols for military use between 1911 and 1945.

RELIABLE DESIGN

The Type 54 is a short-recoil-operated, locked-breech pistol with a Browning-type action. It is of all-steel construction. The quality of the steel is quite good, but external fit and finish tends to be a little bit rough. The barrel

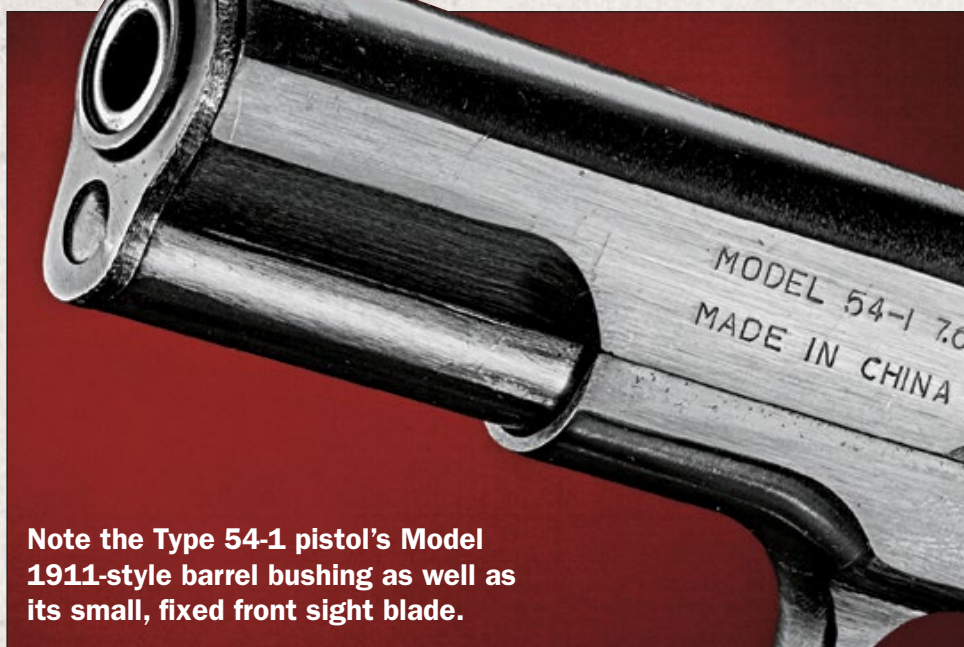
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The Type 54 pistol, chambered in 7.62x25mm, features a recoil-operated action that is closely patterned after the United States' venerable Model 1911 pistol.



The Type 54 has fixed sights and an exposed hammer, which, when lowered, is the only safety on military models.





Note the Type 54-1 pistol's Model 1911-style barrel bushing as well as its small, fixed front sight blade.

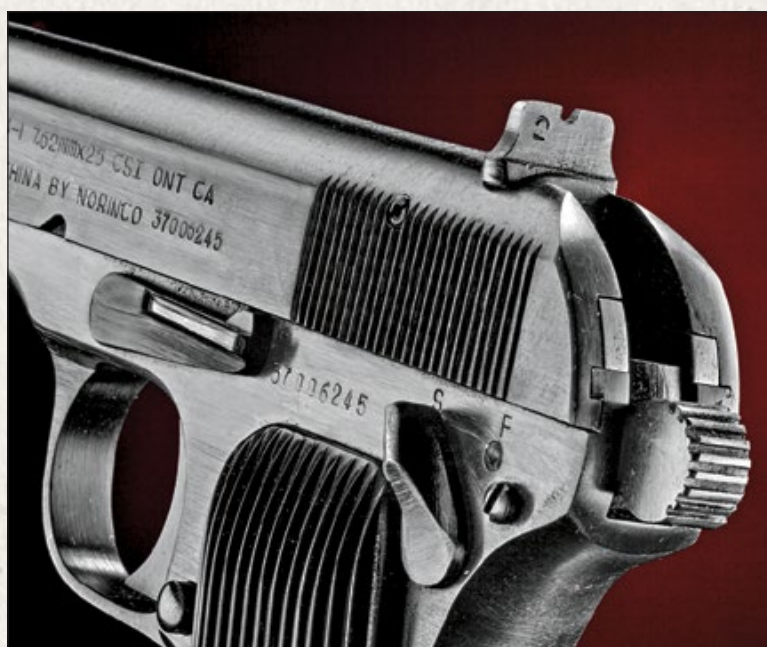
locks to the slide with two lugs, which enter cuts on the underside of the slide; the tipping of the rear of the barrel upon recoil is controlled by a swinging link that connects the barrel and frame. The trigger is single action, with an exposed hammer and no manual safety. The only safety feature on the Type 54 is a half-cock notch on the hammer, but it is considered insufficiently safe for carry "with one in the chamber" and normally these pistols are carried with an empty chamber and the hammer down.

The hammer, along with its spring and sear, forms a single unit that is easily removed during field disassembly, simplifying the routine maintenance of the pistol. Magazines are single stack, with the magazine-release button located at the base of the triggerguard, on the left side. The sights are fixed, the rear sight blade being dovetailed to the frame.

Commercial variants may feature different chamberings, as well as an added manual safety on the left side of the frame, and, sometimes, plastic wrap-around grip panels of improved shape. Most parts of the Type 54 pistol will interchange with other TT-style pistols, including the original Tula Tokarev Model of 1933. However, the original TT slide normally won't fit over the Type 54 frame.

EXPANDING INFLUENCE

Like the Soviet TT, the Chinese Type 54 pistol has a long combat history. Early Type 51 pistols were widely used during the war in Korea. Similarly, many Type 54 pistols were supplied to North Vietnam during the Vietnam War, with more than a few ending up in



Commercial variants of the Type 54 designed for importation into the United States feature an easy-to-reach, frame-mounted thumb safety.

the U.S. as war trophies and bring-backs. In fact, the North Vietnamese Army and Police officially adopted this pistol as the K54 and eventually began

to make it in Vietnam, probably with the help of Chinese engineers.

In mainland China, these pistols saw a lot of police action during the Cultural Revolution, and they still can be seen in the hands of Chinese police. Type 54 pistols also saw action during the lesser-known Sino-Vietnamese border conflict of the late 1970s, with the pistol being used in combat by both sides.

Eventually, the Type 54 pistol also became a viable export commodity for Chinese industry. Relatively inexpensive but effective, these pistols were exported as military weapons all across the world, and they can still be found anywhere in Africa, Asia and certain parts of Latin America.

NORINCO, a state-owned industrial corporation of China, also exports a wide variety of Type 54 derivatives for commercial sales across the world. These can be found at quite affordable prices in many corners of the world, from Canada and Germany to Pakistan and the Philippines. A few NORINCO Type 54 pistols and its derivatives were even exported to the U.S. before the 1993 ban on certain Chinese firearms.

NEW VARIANTS

The basic Type 54 pistol is a straightforward copy of the Soviet Tokarev TT pistol in its post-WWII modification



Though newer pistols are available, many police and military units in China are still using older Type 54 pistols.

CHINESE TOKAREV

(narrow slide serrations). Basic differences between Soviet and Chinese pistols include different markings, grip frame dimensions (Chinese pistols have a smaller grip circumference) and subtle changes in the grip panel design (Soviet pistols have the letters “CCCP” set between points of the star, while Chinese pistols have panels with the same star but no letters). There are no visible mechanical differences between the Soviet TT and the Chinese Type 54. However, besides “standard pattern” Type 54 guns, Chinese factories made, and are still making, many versions and variations, and it’s there where it gets really interesting.

One of the simplest variations of the Type 54 pistol is known as Type 54-1. Developed as a commercial export model, it features a manual safety set on the left side of the gun above and to the rear of the grip panel. The safety lever points upward and rotates forward to “safe” and rearward to “fire.” Like its parent, the Type 54-1 fires the same 7.62x25mm ammunition. A similar gun that’s chambered for the much more popular and available 9mm cartridge can be encountered under variety of names, such as the NORINCO Model 201C, the NORINCO Model 213, the NORINCO TU-90, the NORINCO NP-10, the NP-17 and the M20 (a clandestine version with no markings at all) and probably a few others.

“An interesting offshoot of the family is the 9mm NORINCO Model 213A pistol, which features a thicker grip frame that hosts a double-stack magazine with a 14-round capacity.”

Specifications:

TYPE 54

CALIBER:	7.62x25mm, 9mm
BARREL:	4.6 inches
OA LENGTH:	7.7 inches
WEIGHT:	31 ounces (empty)
GRIPS:	Plastic
SIGHTS:	Front blade, rear notch
ACTION:	SA
FINISH:	Matte black
CAPACITY:	8+1

All these pistols are mechanically similar to the Type 54-1, but many feature a variety of finishes, including bright chrome, and standard TT-style or improved “Tokagyt-style” wrap-around grip panels.

An interesting offshoot of the family is the 9mm NORINCO Model 213A pistol, which features a thicker grip frame that hosts a double-stack magazine with a 14-round capacity. An even more interesting variation of the “high-capacity

One of the many offsprings of the Type 54 family is this NORINCO Model 213, which is chambered for the ever-popular 9mm Parabellum.

Type 54 pistol” was captured by Russian police several years ago from a certain criminal group. The pistol in question was mechanically similar to the Model 213A but had a noticeably longer grip that hosted a 20-round magazine. Other modifications included having the rear of the grip slotted for a shoulder stock, a chambering for the 7.62x25mm round and, last but not least, a select-fire capability. This gun was probably originally produced in China for supply to various revolutionary movements.

All in all, the Type 54 pistol and its variants are still manufactured in China and Vietnam, making this gun one of the oldest service pistols in terms of service and manufacture, as the original Soviet Tokarev TT originally entered service in 1931. It will probably see at least a decade of more service with the PLA and PAP forces, and will be encountered elsewhere in the world for a noticeably longer time.

While Chinese Type 54 pistols might sometimes look less refined than their Soviet or Eastern European relatives of TT heritage, they still work as intended, providing affordable short-range firepower. For more information, visit centuryarms.com or call 800-527-1252. ■



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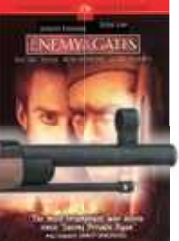
Roza Shanina, already an accomplished sniper in 1944 at the age of 20, commanded a squad of female snipers, who proved to be the scourge of the German army. These courageous young women used a rifle that was state-of-the-art at the time, the Mosin 91/30 PU.



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To give Springfield Model 1903 rifles more firepower for fighting in the trenches of World War I, John Pedersen invented the Pedersen Device, which replaced the bolt and allowed the rifle to deliver a vastly increased volume of fire—exactly 40 rounds with each magazine.

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TRENCH

This Ordnance Department photograph shows a U.S. Army soldier taking aim with an M1903 Mark I rifle fitted with the Pedersen Device for semi-auto firing. Despite its innovative design, the device came late in World War I and was obsolete by World War II.



The innovative Pedersen Device gave the Springfield 1903 a semi-auto upgrade!

WARRIOR

• By Bruce N. Canfield •



World War I was an epochal period in the history of warfare when 18th century infantry tactics went head-to-head against 20th century weapons technology. The results were predictable and gruesome. Tens of thousands of lives were wasted in futile and foolish headlong assaults against fortified trench positions protected by the devastating firepower of water-cooled, belt-fed machine guns.

The carnage inflicted on both sides since the war began in 1914 was, in large measure, responsible for the strong isolationist sentiment in the United States. The American public was in no mood to send our young men to be slaughtered in the trenches of France on behalf of our European allies. As events transpired, however, the United States eventually declared war against the Central Powers in April of 1917, and the nation rapidly mobilized for the conflict.

At the time, the small pre-war American Army, Marine Corps and Navy were equipped with Model 1903 rifles. However, the declaration of war meant large numbers of additional weapons would be needed in a hurry. This resulted in greatly increased production of the '03 rifle at Springfield Armory and Rock

Island Arsenal. A slightly modified version of the British Pattern 1914 rifle was also adopted as the Model of 1917 and issued, along with '03s, to troops departing for France.

FRONTLINE SOLUTION

The bolt-action M1903 and M1917 rifles proved to be at least equal to the other contemporary infantry rifles, but all had two apparent drawbacks. The bolt action was not conducive to rapid firing and the typical service cartridge, such as the .30 Springfield (.30-06), was overly powerful for some applications. This was discussed in an *Army Ordnance* magazine article of the period:

"It may seem at first glance that the military rifle cartridge is unduly powerful but it must be remembered that...these same bullets are used by machine guns for laying out barrages at long distances or for shooting at high flying aircraft.

Thus a soldier in firing his army rifle is frequently in a situation where he has more power in his bullets than he needs for the particular job in hand; moreover, for each shot he must open the bolt of his gun and throw out the empty cartridge and



More firepower means more ammo. Original shipping crates (top) held 3,000 rounds of .30-caliber Pedersen Device ammo. Each 200-round carton of Remington UMC ammo (bottom) held five 40-round boxes of the cartridges.

then close the bolt and lock it before he can shoot another shot..."

In other words, there were times when a soldier did not need a full-power cartridge but, at other times, such ammunition was indispensable. Also, a self-loading (semi-automatic) service rifle would be extremely valuable, but there were no satisfactory military semi-automatic rifle designs on the horizon. Finding a solution to these two rather contradictory issues would seem to be unlikely. However, the problem was addressed by one of the most famous firearms designers of the period, John D. Pedersen.

By the first decade of the new century, with the exception of the legendary John M. Browning, Pedersen's reputation as a gun designer and engineer was second to none. While affiliated with Remington Arms Company, Pedersen also designed several successful guns, including the Model 51 pistol, the Model 10 slide-action shotgun and an advanced experimental .45-caliber pistol. In the early 1920s, Pedersen designed a semi-automatic rifle that presented a strong challenge to the semi-automatic rifle invented by John C. Garand.

RAPID FIRE

In the summer of 1917, Pedersen contacted the U.S. Army Ordnance Department and requested a secret demonstration of his latest invention. Even though the Ordnance people had no idea as to the nature of his invention, Pedersen's reputation was such that the rather unusual request was granted. On October 8, 1917, after being sworn to secrecy, a small contingent of Army officers, including Chief of Ordnance General William Crozier and a few congressmen, gathered at the Congress Heights Rifle Range near Washington, D.C. An *Army Ordnance* article described the event:

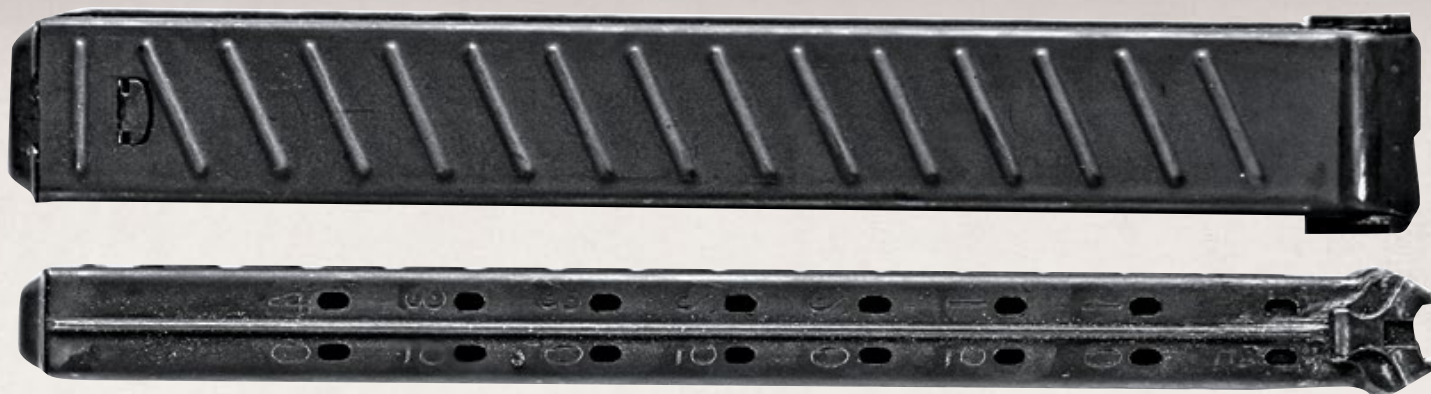
"Mr. Pedersen started his demonstration by firing the Springfield rifle which he brought with him. After firing a few shots in the ordinary way he suddenly jerked the bolt out of the rifle and dropped it into a pouch which he had

with him, and from a long scabbard which was on his belt he produced a mysterious looking piece of mechanism which he quickly slid into the rifle in place of the bolt, locking the device to the rifle by turning a catch provided for the purpose.

"Then he snapped into place a long black magazine containing forty small pistol size cartridges whose bullets were, however, of the right diameter to fit the barrel of the rifle. All of this was done in an instant and in another instant Mr. Pedersen was pulling the trigger of the

“While the tactical value of the Pedersen Device can be debated, it remains one of the more ingenious and interesting... items of ordnance ever to be produced.”

With the Pedersen Device installed in this M1903 rifle, the magazine angles off to the right side. Upon firing, spent cases are ejected from the small ejection port on the left side of the receiver.



The Pedersen Device utilized 40-round stick magazines that are now as rare as the devices themselves. Note the cutouts in the rear of the magazine, which made it easier to see remaining ammo.

• • •

rifle each time as fast as he could work his finger and each time he pulled the trigger the rifle fired a shot, threw out the empty cartridge and reloaded itself.”

The assembled spectators were astonished by what they had witnessed and the device was eagerly examined. The mechanism, now known as the Pedersen Device, was referred to as an “automatic bolt.” It functioned in basically the same manner as a blowback pistol. The “barrel” of the device was the same configuration as a .30-06 cartridge case and had shallow rifling. It locked into place by a slightly modified magazine cut-off. A small projection on the trigger moved forward each time it was pulled to actuate the device’s sear.

The 40-round magazine snapped into the right side of the device at about a 45-degree angle, and was held in place by two spring-loaded catches. The offset location of the magazine permitted the rifle to be sighted normally, and the fired cartridge cases were ejected through an elongated, oval-shaped hole milled into the left side of the rifle’s receiver. The device was carried in a sheet-metal scabbard with a hinged cover. A canvas pouch was fabricated to hold the rifle’s bolt when removed for insertion of the Pedersen Device. Five magazines were carried in a canvas pouch. The scabbard and pouches were all fitted with hooks for use with the standard infantry cartridge belt.

The Pedersen Device’s .30-caliber cartridge was very similar to the Colt .32 ACP pistol round but it had a muzzle velocity of approximately 1,300 fps, almost 50-percent higher than pistol cartridges of comparable size.

TOP SECRET

It didn’t take long for the Army officers who witnessed the demonstra-

tion to grasp the potential defensive and offensive benefits of the device for the trench warfare currently raging in France. As one imaginative observer commented:

“As the enemy came charging across No Man’s Land each of our soldiers would start firing with this miniature machine gun and the entire zone in front of the trenches would be covered with such a whirlwind of fire that no attack could survive...”

“A line of soldiers advancing across No Man’s Land firing this device at the enemy trenches as they ran would make it extremely difficult for anyone in the trenches to show his head or any part of his body. Of course, fire while running or walking would not be so accurate, but the tremendous number of shots would more than make up for any inaccuracies and the whole enemy trench system would presumably be smothered with a storm of bullets.”

After the impressive demonstration in Washington, an Ordnance Department officer, also sworn to secrecy, was dispatched to France to deliver an example of the Pedersen Device to General Pershing. On December 9, 1917, the device was tested at Langres, France, under the supervision of a select board of four high-ranking American Expeditionary Forces officers. After testing, the board recommended that 100,000 Pedersen

• • •

This is a rear view of the Pedersen Device, a workaround to turn M1903s into semi-automatic battle rifles. Note the spring-loaded magazine catches.



Devices be procured and plans were made to go into mass production.

The recommended allocation of ammunition for each device was 5,000 rounds with a daily resupply of 100 rounds. The board stressed that the element of surprise would be an important factor and recommended that none of the devices be issued until at least 50,000 were on hand and ready for use. These recommendations were conveyed to the chief of ordnance in Washington via a cablegram sent on December 11, 1917.

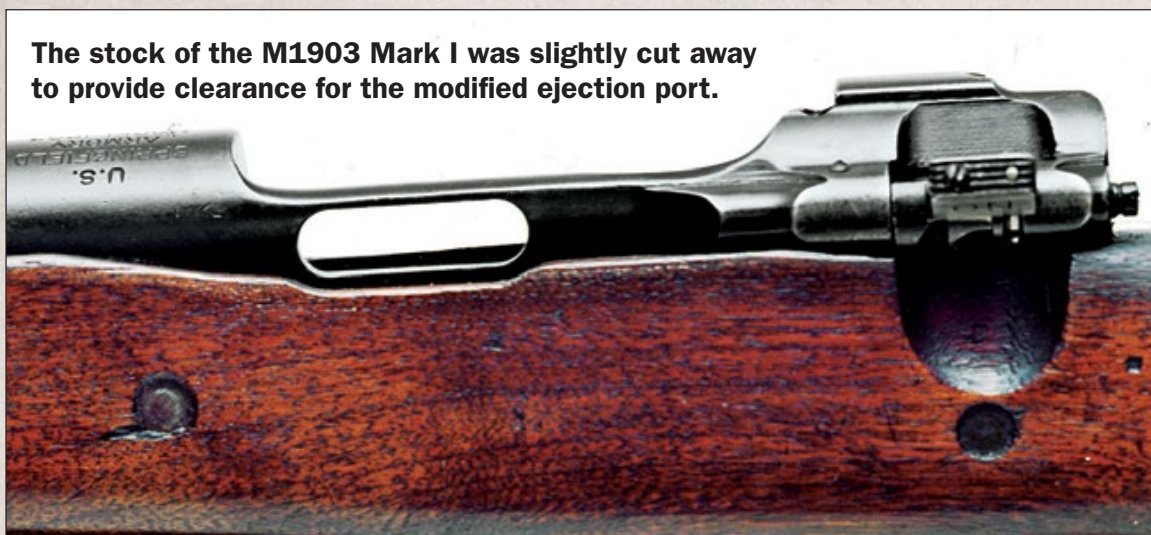
In order to maintain the desired secrecy, the device was given the purposely misleading nomenclature of “Automatic Pistol, Caliber .30, Model 1918, Mark I.” It has been reported that the War Department received criticism from various quarters for adoption of another pistol when the tried and true Colt M1911 .45 was already in production. Presumably the Ordnance Department was pleased that their ruse seemed to be working so well.

INTO THE TRENCHES

The War Department concurred with the board’s recommendation and an initial order for 100,000 Pedersen Devices was placed with Remington Arms Company on March 26, 1918, and another 33,450 were added to the contract shortly afterward. On May 24, 1918, 800 million Pedersen Device cartridges were also ordered from Remington.

While Remington was tooling up to manufacture the Pedersen Devices, Springfield Armory was working on the modifications necessary to the M1903 rifle to enable it to be used with the new

The stock of the M1903 Mark I was slightly cut away to provide clearance for the modified ejection port.



The chamber of the Pedersen Device (shown above with two adjustment wrenches) was designed with the same dimensions as a .30-06 case.

• • •

device. These modifications included having the ejection port milled into the left side of the receiver (with a shallow clearance cut on the stock) along with a modified magazine cut-off, trigger and sear. The new rifle was designated as the “U.S. Rifle, Caliber .30, Model of 1903, Mark I.” The first Mark I ’03 rifle, serial number 1,034,503, was completed at Springfield in November 1918.

While Remington was busily engaged in manufacturing the devices, the War Department was already planning on the best way to employ the envisioned revolutionary weapon. A “Grand Offensive” was slated for the spring of 1919 and it was believed that the Pedersen Device would play an important role in the campaign. It was eventually realized that M1903 Mark I rifle production may not be sufficient to provide enough rifles, and on June 27, 1918, Mr. Pedersen was requested to develop a version of his device for use with the Model 1917 rifle.

The new device was designated as the “Mark II” and a working example was demonstrated to the Ordnance Department on August 10, 1918. On September 20, 1918, Remington was directed to proceed with plans to manufacture 500,000 Mark II Pedersen Devices after the original Mark I contract was completed. Interestingly, at least one prototype Pedersen Device was fabricated for the Russian Mosin-Nagant rifle but any pending plans to put a Pedersen Device for that weapon

into production was quashed when the czar was deposed.

At the time of the Armistice on November 11, 1918, production of the Mark I Pedersen Devices and Mark I M1903 rifles was well underway but the contract for the Mark II devices was cancelled on December 17, 1918. Only a handful (probably less than a half dozen) Mark II prototypes had been made. Remington continued with production of the Mark I devices until the contract was also cancelled on March 1, 1919. By this time, about 65,000 Pedersen Devices had been manufactured, along with 1,600,000 magazines and 65,000,000

cartridges. Springfield Armory continued production of the Mark I M1903 rifle until March 1920, by which time approximately 145,000 rifles had been manufactured.

LATE ARRIVAL

At the conclusion of the war, the U.S. Army had its Pedersen Devices and Mark I M1903 rifles but no one was quite sure what to do with them. The War Department appointed a board to determine the Army’s policy regarding these devices and to ascertain what

role, if any, these weapons would play in the post-WWI period. Even at this time, all personnel involved were sworn to secrecy. Various tests conducted in late 1919 and early 1920 all arrived at the same conclusion: Future use of the Pedersen Device was unlikely.

The devices were placed in storage pending a decision as to their final disposition. These Pedersen Devices, metal scabbards and ammunition remained in storage until April 1931, when the items were ordered to be destroyed since they were deemed to have no future applications and were judged not worth the expense of continued storage. The ordnance depots at which they were stored were directed to burn the devices and metal scabbards and the remaining residue was to be sold as scrap metal. The ammunition was also ordered to be destroyed.

Beginning in 1937, the Model 1903 Mark I rifles began to be recalled to Springfield Armory so the special Pedersen Device-related parts could be removed and replaced with standard components. Afterward, the rifles were reissued as standard service arms. Very few Pedersen Devices survived the destruction directive. A few were given to government museums and, as might be expected, some were “unofficially” salvaged from the fringes of the bonfires. Some of these latter examples will show evidence of having been burned to varying degrees.

The exact number of extant Pedersen Devices is not known but a rough

Specifications:

Springfield Model 1903 Mark I (with Pedersen Device)

CALIBER:	.30 Pedersen
BARREL:	24 inches
OA LENGTH:	43.5 inches
WEIGHT:	10 pounds
SIGHTS:	Adjustable rear, fixed front
ACTION:	Semi-auto
FINISH:	Parkerized
CAPACITY:	40



This M1918 infantry belt is carrying (from left to right) the original M1903 rifle bolt, the Pederson Device in a rare carry scabbard and two mag pouches.

• • •

estimate would be two to three dozen. These range in condition from pristine to rusted-out hulks. The magazines are about as rare as the devices and the metal scabbards are even rarer. The canvas pouches for the magazines and bolts were not destroyed and examples are still relatively common today. Rumors have abounded for years about replica Pedersen Devices

coming on the market but there are engineering and financial hurdles that make this unlikely.

It is fascinating to speculate how the Pedersen Device would have performed in the Allied Grand Offensive in the spring of 1919. The sight of thousands of Doughboys leaving their trenches and moving across "No Man's Land" while firing their Pedersen Devices would undoubtedly have been quite a spectacle.

But it was not to be. Instead, Mr. Pedersen's remarkable invention suffered the ignominy of being dumped into funeral pyres and reduced to charred scrap metal. While the tactical value of the Pedersen Device can be debated, it remains one of the more ingenious and interesting, albeit unused, items of ordnance ever to be produced. It's unfortunate it did not have an earlier chance to prove its value in battle. ■

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WORLD WAR MILITAIRIA



Leszek Erenfeicht Photo

Meet the air gun replicas of some of the most iconic sidearms in military history!

By Dennis Adler



It's hard to imagine that these different guns from different eras, even from different centuries, all came together in one time period, but during World War II this unlikely convergence of arms did in fact take place. Even today, after more than 70 years, there remains an almost inexplicable attraction to these assorted military revolvers and pistols.

Aside from the Colt Model 1911, most are of foreign origin, including the Broom-handle Mauser; the British Empire's venerated .455-caliber Webley Mk VI revolver; the Belgian-designed Nagant seven-shot revolver carried by Russian soldiers in two World Wars; the 7.62mm Tokarev TT semi-automatic that succeeded it; and, lest we forget, two of Germany's most famous WWII sidearms, the Luger P.08 Parabellum and the Walther P.38. These have all been faithfully recreated today as high-quality, .177-caliber air pistols.

In recreating these historic handguns as air pistols, manufacturers like Umarex, for example, which has its Legends line with the Mauser M712 selective-fire Broomhandle, the Luger P.08 and the Walther P.38, eschew the use of plastics by using all metal components to provide durability, accurate styling, the proper weight and methods of operation. Here are some of the best replica air pistols currently available. (Holsters courtesy WorldWarSupply.com)



Umarex's Model 712 (bottom) is similar to the original 1930 Broomhandle (top) with its wooden stock/holster.

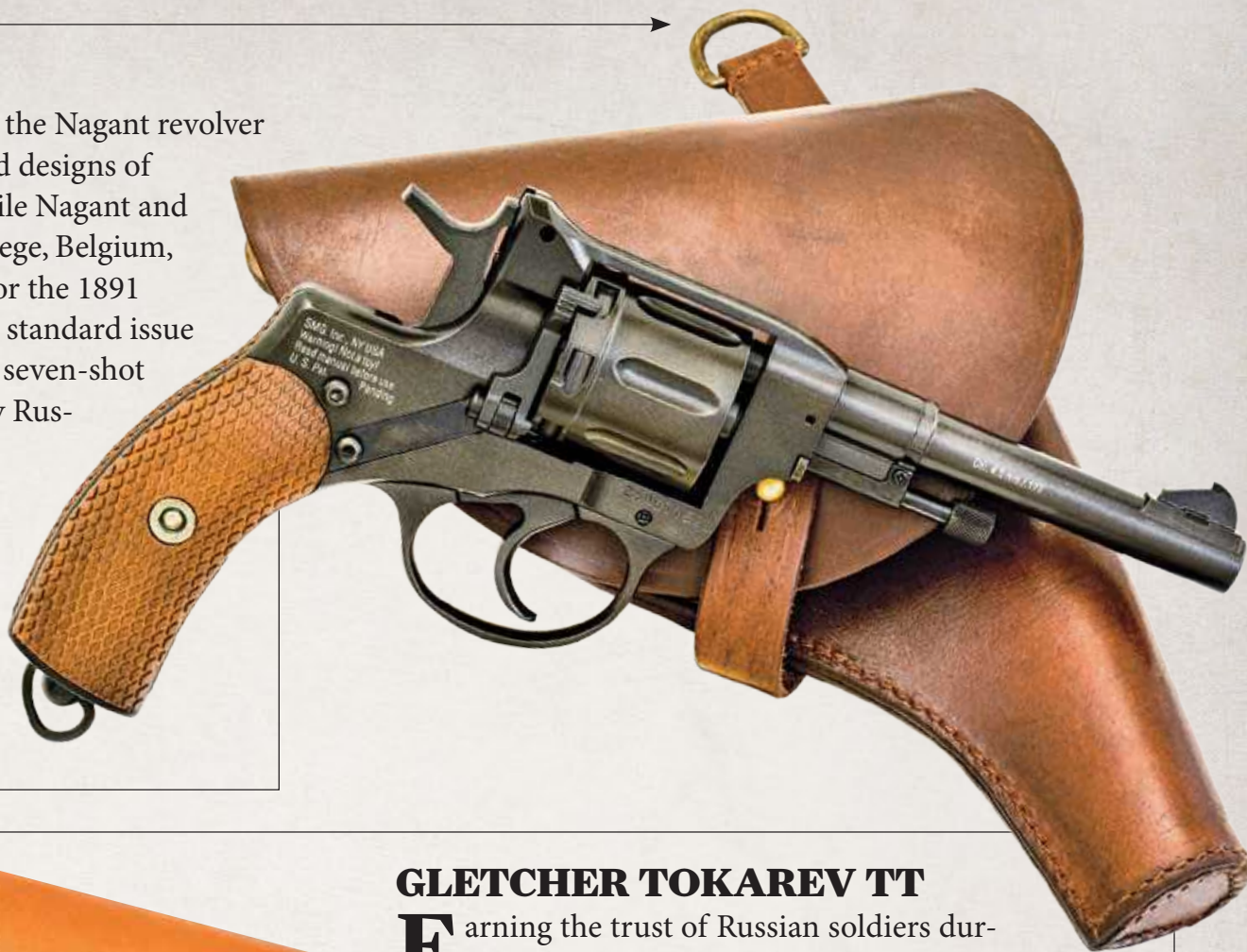
UMAREX MODEL 712

The Umarex Legends Broomhandle Model 712 air pistol is perhaps the most remarkable and desirable of all World War-era air pistols. The Broomhandle is an invention of the late 19th century. Among the very first semi-automatic pistols, the Broomhandle was patented on December 11, 1895. It used a locked-breech design with a rectangular bolt housed inside the square section of the barrel extension. Among many unprecedented features, the Mauser Broomhandle introduced

GLETCHER NAGANT

Developed in Belgium in 1895, the Nagant revolver was one of the most advanced designs of its time. Designed by Leon and Emile Nagant and manufactured at their armory in Liege, Belgium, the brothers were already famous for the 1891 Mosin-Nagant rifle. Adopted as the standard issue handgun for the Russian Army, the seven-shot 7.62mm Nagant was also carried by Russian police and the KGB.

Gletcher's all-metal, .177-caliber air pistol reproductions accurately reproduce the revolver's original features and use reloadable brass BB cartridges, offering shooters a very realistic DA/SA revolver shooting experience.



GLETCHER TOKAREV TT

Earning the trust of Russian soldiers during WWII, the original 7.62x25mm Tokarev TT (adopted by the Red Army in the 1930s) grew in popularity because of its power and reliability. Gletcher's CO₂-powered TT pistol was designed for simplicity, power and precision, just like the original Tokarev TT-33. A metal body, a powerful blowback action and a functional hammer give this air pistol a realistic feeling in the hand.

The Gletcher Tokarev TT pistol is fitted with a smooth trigger pull for accuracy, and the magazine holds 18 .177-caliber BBs. Powered by a 12-gram CO₂ cartridge concealed in the pistol grip, the TT delivers an average velocity of 361 fps. The rubber grips provide a firm grasp for shooters with or without gloves. The pistol's weight, at 21.92 ounces, and its ability to fit aftermarket Tokarev holsters add to its authentic feel.



a device to keep the bolt locked back after the last shot had been fired, thus indicating an empty magazine and automatically preparing the gun for quick reloading.

A manual safety on the left-rear of the frame was actuated by pushing the lever upward into a notch, which either locked the hammer so that it could not be cocked, or if cocked, blocked the hammer. There was also a wooden shoulder stock with a steel yoke that mounted into a channel in

the gripstrap, making the Mauser into a modest carbine pistol. The hollow shoulder stock also doubled as a holster worn in a leather shoulder harness.

The Model 712 (Model 1932 or *Schnellfeuer*) used a removable box magazine and could be fired in either semi-auto for full-auto. The Model 712 has been faithfully reproduced right down to the select-fire control switch on the left side of the frame. The Umarex gun is so exact in detail that a classic Mauser wooden shoulder stock/holster will fit it.

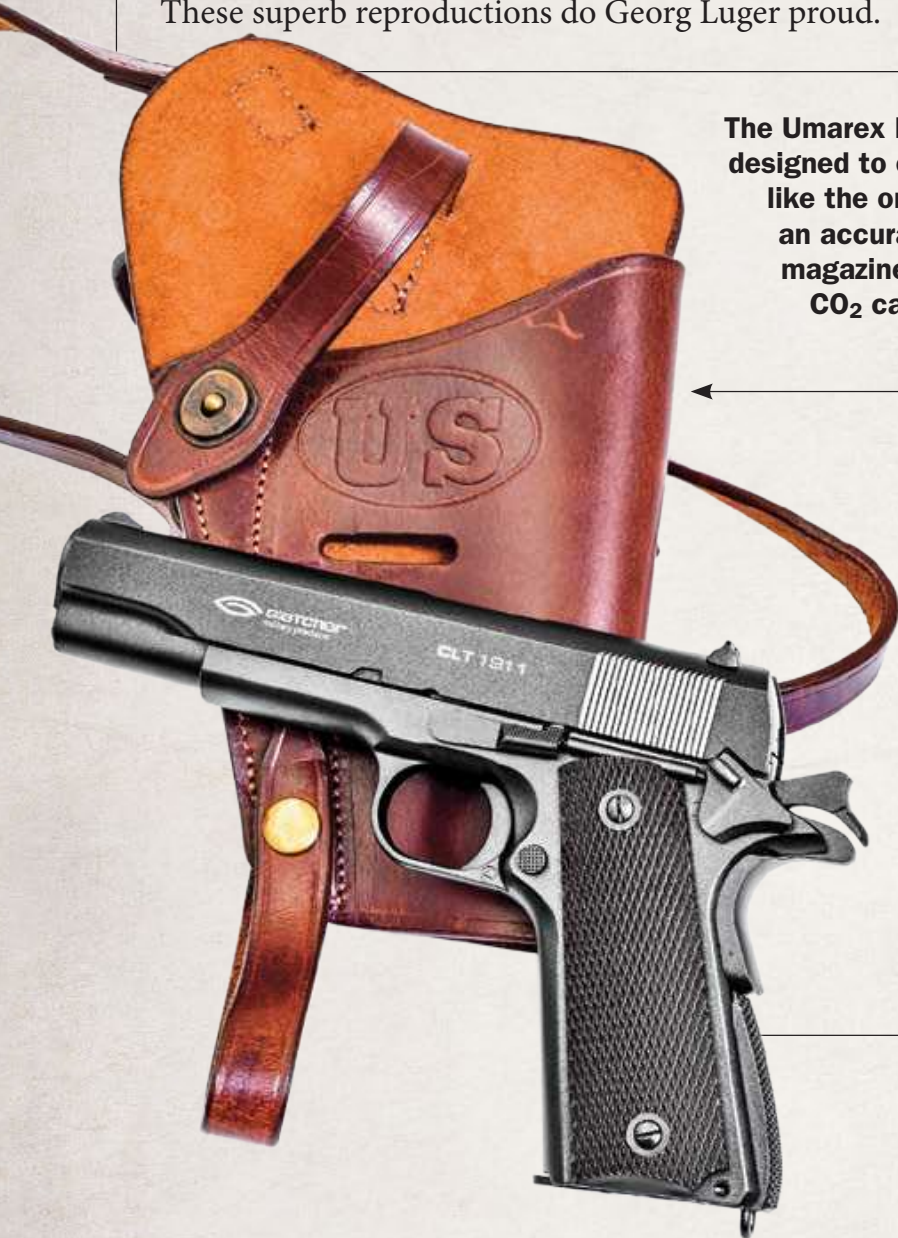
“...after more than 70 years, there remains an almost inexplicable attraction to these assorted military revolvers and pistols.”

UMAREX LEGENDS P.08

Exhibiting impressive authenticity, the Umarex Legends P.08 uses a detachable box magazine that contains both the 12-gram CO₂ capsule and a charge of 21 steel BBs, allowing for additional magazines to be carried for a quick and authentic reload. The air pistols operate exactly like the original via a blowback toggle action. All-metal construction provides the weight (32 ounces) and heft of a real P.08 semi-auto. Originally developed in 1898 and put into production in 1900, the cartridge-firing P.08 is another of the earliest semi-auto designs that saw use in both WWI and WWII. It is also one of the most recognized handguns in the world. These superb reproductions do Georg Luger proud.



The Umarex Legends P.08 is designed to operate exactly like the original and uses an accurately sized P.08 magazine that holds the CO₂ capsule and BBs.



GLETCHER CLT 1911

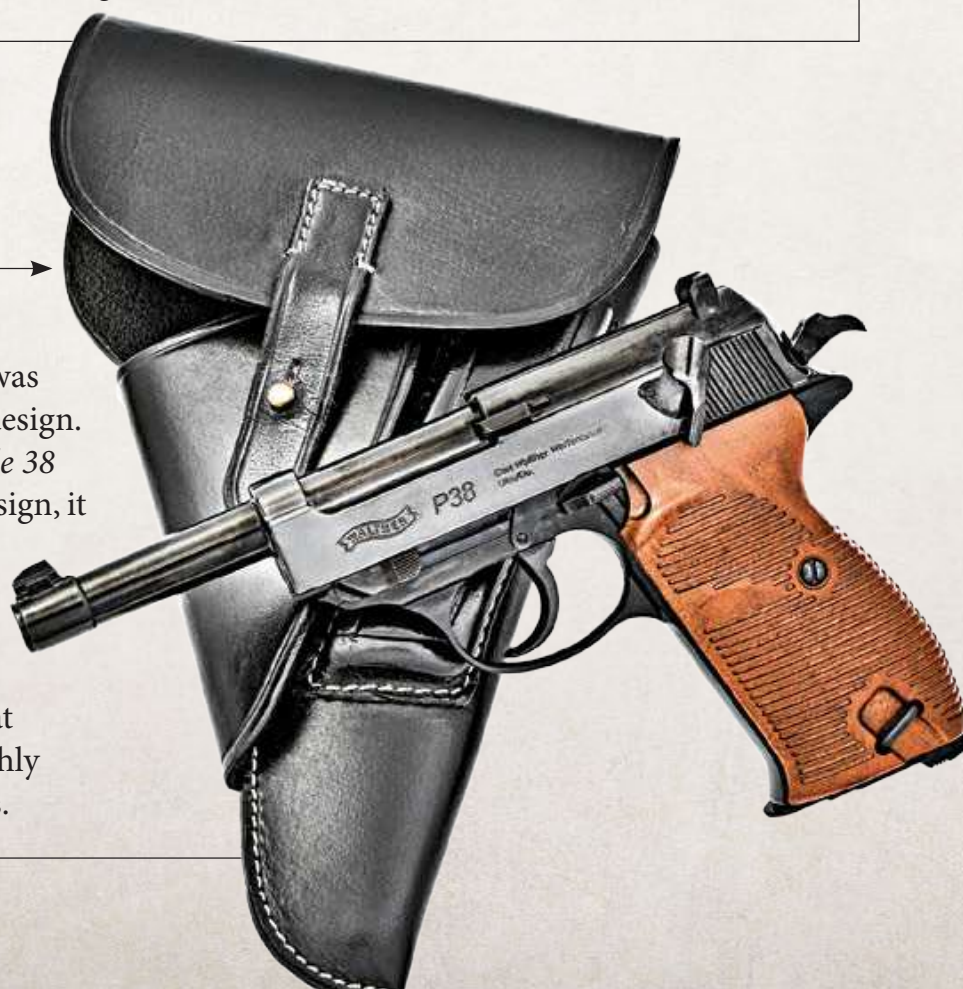
Currently one of the most authentic .177-caliber copies of the 1911A1 carried by U.S. forces during WWII, the Gletcher CLT 1911 features authentic blowback action, a 1911A1-style hammer, a small thumb safety, a lanyard loop at the bottom of the magazine well, checkered grip panels, a grip safety and an arched mainspring housing.

Weighing 31.68 ounces (lighter than a real 1911A1), the Gletcher model uses a Colt-style magazine that carries both the CO₂ capsule and BBs for authentic reloading. The pistol's design delivers shooters an average downrange velocity of 328 fps. All features are as close to original in operation as possible, right down to racking the slide to chamber the first round.

UMAREX WALTHER P.38

One of the most famous 9mm pistols of all time, the P.38 was originally developed by Walther in 1935 as a prototype design. The final version was put into production in 1938 as the *Pistole 38* or Walther P.38. Featuring a recoil-operated, locked-breech design, it had a short, open-top slide and double-action operation, the latter being a first for a 9mm semi-auto military handgun.

The Umarex Walther P.38 is a 20-shot BB pistol with an authentic blowback action. Although not a DA/SA like the original, the all-metal, SA air pistol can deliver its rounds at an impressive velocity of 400 fps. This Umarex air pistol is highly authentic in its appearance, dimensions and original markings.



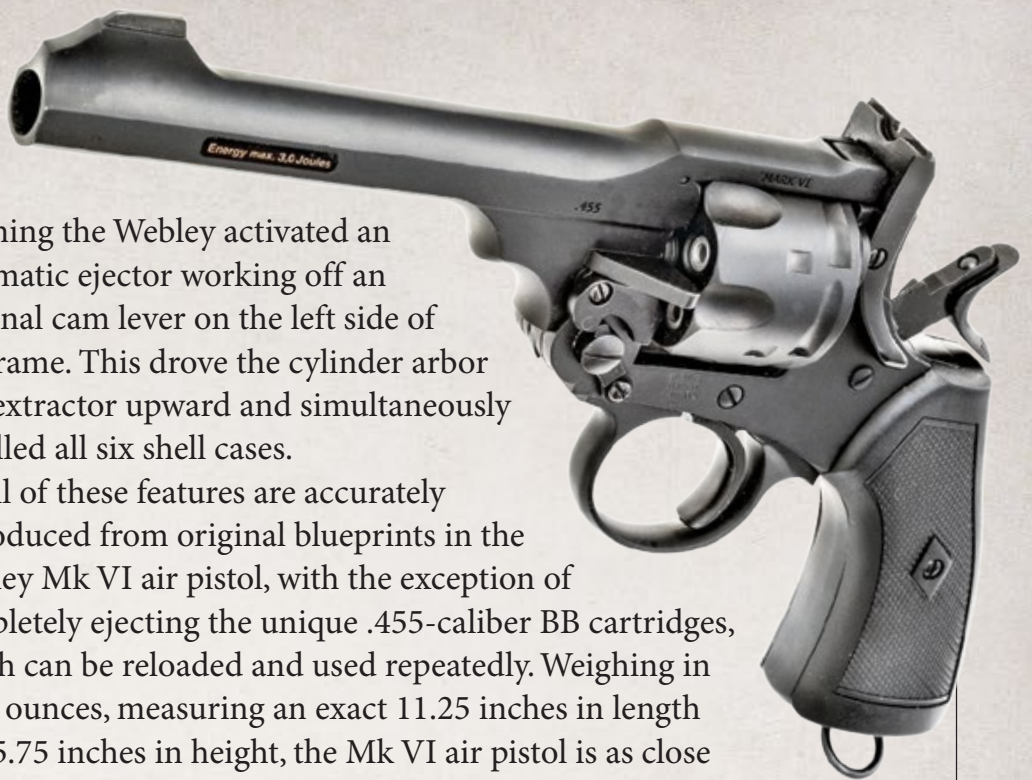
WEBLEY MK VI

The Webley Mk VI is manufactured to exacting specifications by Webley & Scott, a company steeped in its own storied air pistol history dating back to the early 20th century. The original Webley Mk VI self-extracting revolver was used by British troops throughout WWI and WWII. The Webley was distinguished by its 6-inch, flat-sided barrel, its large hammer spur, copious triggerguard and large, crescent-shaped DA/SA trigger.

A man-sized handgun overbuilt to endure, it used a massive “stirrup latch” to release the barrel and cylinder assembly, allowing it to be tilted downward like the old S&W top-break revolvers.

Opening the Webley activated an automatic ejector working off an external cam lever on the left side of the frame. This drove the cylinder arbor and extractor upward and simultaneously expelled all six shell cases.

All of these features are accurately reproduced from original blueprints in the Webley Mk VI air pistol, with the exception of completely ejecting the unique .455-caliber BB cartridges, which can be reloaded and used repeatedly. Weighing in at 37 ounces, measuring an exact 11.25 inches in length and 5.75 inches in height, the Mk VI air pistol is as close to the original Webley revolver as possible.



COLD WAR COMRADES

For those looking for some ComBloc fun, these classically styled shooters deliver!

In addition to the late 19th and early to mid-20th century classics recreated in air gun form and featured in this article, there are also some Cold War era-inspired options out there for all of you Communist Bloc fans. From the early post-war Russian model of the Makarov Model 1951 to the unique Stetchkin APS, there is something here for all of the “fellow travelers” out there!

1 Gletcher PM 1951

The *Pistolet Makarova* or PM 1951 was originally issued to Soviet officers. The Gletcher copy of the famous 9x18mm Makarov PM 1951 pneumatic pistol was designed to duplicate the original with great attention to detail, and by using all-metal construction the weight, balance and realistic feel have been preserved. Operating the PM1951 air pistol resembles the original by loading a magazine and racking the slide to the rear to chamber the first round.

The PM 1951’s blowback action adds yet another level of authenticity to shooting this air pistol. It comes with one full-sized magazine that holds 16 .177-caliber BBs. Concealed within the magazine is the channel for the air pistol’s 12-gram CO₂ capsule. This helps center the weight, improve the pistol’s balance in the hand and also allows for authentic magazine loading. Average velocity for the PM 1951’s projectiles is 329 fps.



2 Gletcher Stetchkin APS

The metal-bodied APS is the first pneumatic reproduction of this legendary Soviet model. The 9x18mm-caliber handgun was developed in the mid-20th century, particularly for soldiers who did not carry an automatic weapon or carbine but needed a strong and reliable weapon. The combat effectiveness of the APS was provided through its high-capacity 20-round maga-

zine, its 5.5-inch barrel length and its select-fire capability.

Although the Gletcher air pistol is not equipped with a select-fire option, its overall design holds true to its original model. The APS has the identical 36.8-ounce carry weight and measures 8.875 inches in overall length. Its powerful blowback action and realistic slide response give the APS a high level of authenticity. The magazine holds 22 .177-caliber BBs that deliver an average velocity of 361 fps.




3 Umarex Makarov Ultra

Using a one-piece CO₂ and BB magazine for authentic loading, the classic lines of the Russian Makarov, complete with the plastic grips emblazoned with a Russian star, delivers the weight (24 ounces) and balance of the real 9x18mm pistol designed by Nikolai Makarov in 1951. Intended to replace the aging Tokarev TT-33, the pistol was “essentially” a Russian version of the Walther PP. The Makarov remained in use by the Soviet military and police for over half a century, and it is still popular throughout the world. The Umarex air pistol features an all-metal blowback action and a capacity of 16 BBs. ■



CONTACTS: **Gletcher** gletcherguns.com; 877-969-0909 • **Umarex USA** umarexusa.com • **Webley & Scott** webleyandscott.com



A 1938 Grazian *Balilla* (top) and a late 1941 Grazian *Balilla* (bottom). The magazine of the 1941 model was almost identical to that of the FNA and Castelli *Balillas*, but the larger magazine was unique to Grazian production.

Clearly inspired by Rome's ancient glory and military achievements, Mussolini and the fascists did little to conceal their dreams of expansion and empire for Italy. In order to realize these nationalistic aims, militarization of Italian society was necessary, and particular emphasis was placed on indoctrination of the country's youth.

To this end, in 1926, after barely four years in power and following Mussolini's expressed desire to provide pre-military training and to arm Italian youths beginning at a very young age, the fascists established the *Opera Nazionale Balilla* (ONB) youth organization. The term "Balilla" evoked the memory of a young boy, Giovan Battista Perasso, whose nickname was Balilla, who on December 5, 1746, touched off a popular revolt

against the Hapsburg occupiers in Genoa. By December 10, the revolt had managed to free the city from the Austrian troops.

The ONB program encompassed boys from six to 18 years of age, organized along military lines, who, depending on their age group, were issued uniforms and weapons of various types ranging from strictly toy weapons to light machine guns. In October 1937, the ONB was replaced by the *Gioventù Italiana del Littorio* (GIL), which was disbanded in July 1943.

TRAINING CARBINE

In 1931, in response to a request by the ONB, production began of a very faithful blank-firing copy approximately four-fifths the size of the corresponding full-size *Carcano moschetto modello 1891*, commonly



MARCH OF THE BALILLAS

Italy's blank-firing carbines
delivered a scaled-down
Carcano to the next
generation of soldiers.

By Ralph Riccio

PHOTOS BY SEAN UTLEY



A group of Italian *Balilla* youths become familiar with the blank-firing *Balilla* carbine's manual of arms.

(although actually improperly) referred to as the cavalry carbine both in Italian as well as in English. This carbine was designated the *moschetto regolamentare Balilla modello 1891 ridotto* (reduced size Model 1891 Balilla regulation carbine) and was also referred to as the *moschetto per ONB*, or more commonly as the *moschetto Balilla*. It was ultimately designed to familiarize young boys with the regulation *Carcano* battle rifle and its proper handling.

Three different firms were associated with the manufacture of the *Balilla* blank-firing carbines: Napoleone & Vittorio Castelli (usually referred to as Castelli), Fabbrica Nazionale d'Armi-Brescia (more commonly referred to as FNA-B, or simply FNA), and Fratelli Grazian (Grazian Brothers). Information concerning production by Castelli is far from clear, as is its relation-

ship to FNA, as will be addressed later. The origins of the third manufacturer, Fratelli Grazian of Verona, are also surrounded by some element of mystery. It appears that Fratelli Grazian, unlike Castelli and FNA which were established firearms manufacturers, was formed specifically for the manufacture of the *Balilla* carbine. There are no known records indicating that Grazian engaged in any type of manufacturing either prior to or subsequent to its production of the *Balilla*.

In all respects, the *Balilla* is a very faithful reduced-scale version of the regulation *Carcano* cavalry carbine. The regulation weapon has an overall length of 36.2 inches, while the *Balilla*'s length typically is 29.5 inches, although there are very slight variations in length

depending on the manufacturer. Similarly, the regulation carbine weighs in at around 7 pounds, or a few ounces more depending on the type of wood used, while the *Balillas* weigh between 3.5 to 4 pounds depending on the manufacturer.

The *Balilla* carbines produced by FNA and Castelli were almost identical; Grazian produced two distinct versions of the *Balilla*, the first of which differed noticeably from the FNA and Castelli type, while the second version was almost identical to those of the first two manufacturers. The forged and machined-split bridge receiver is an exact copy, in reduced scale, of the full-sized *Carcano* receiver. Two bolt variations can be encountered, as is true of regulation *Carcano* bolts. The underside of early *Carcano* bolts had

a dogleg in the slot in which the safety assembly traveled, whereas after 1919 the dogleg in the slot was eliminated. Curiously, the FNA and Fratelli Grazian *Balillas* used the earlier type of bolt configuration with the dogleg slot, while the Castelli *Balillas* used the later configuration slot. Grazian bolt stems and handles typically are slimmer and smaller than those of the FNA and Castelli bolts.

MAKER'S MARK

The barrel on the Castelli and FNA *Balillas* is a two-piece assembly consisting of the chamber portion, which also incorporates the rear sight base and which screws into the receiver, and of the rifled barrel itself which mates with the chamber underneath the rear sight. Grazian used a different arrangement, consisting of the chamber portion that mated with the receiver, a sight base assembly that in turn mated with the chamber, and the barrel that screwed into the sight base.

“The *Balilla* carbines...would make a worthwhile addition to any serious or advanced *Carcano* collector.”





The caliber of the weapon is conventionally referred to as 5.5mm, which is the diameter of the “bullet” of the dummy carrier cartridge used with the weapon; the bore diameter of the barrel is in fact 6.5mm. *Balillas* followed the normal Italian practice of

marking the barrel chamber facets with complete identifying data, including the maker’s name on the top facet, the year expressed in Christian and Fascist-era dates (such as 1934 XII) on the right-hand facet, and the serial number on the left-hand facet. It is not unusual, however, to find exceptions to the general rule.

FNA *Balillas* are marked on the top facet with “F.N.A. BRESCIA” on two lines, the Castelli marking consists of the letters “NV C B” enclosed within a diamond, and Fratelli Grazian top facets are marked “GRAZIAN VERONA” on two lines. At least some, if not all, 1936 Grazian *Balillas* are devoid of all chamber markings.

The right-hand facet on FNA *Balilla* follows the standard practice, reflecting the Christian date followed by the Fascist-era date; Castelli *Balillas* do not reflect the date, whereas Grazian carbines have the letters “F.M.B” on the right-hand facet rather than the date, which is on the left-hand facet instead and which is shortened to 941 on those produced in 1941. The letters F.M.B. are believed to stand for *Fucile Modello Brevevettato* (Patented Model Rifle). The left-hand facet on FNA and Castelli *Balillas* bears the serial number, again reflecting normal Italian practice, whereas Grazian, as previously mentioned, placed the date on the left-hand facet.

Depending on the manufacturer and the year of manufacture, the receiver

The magazine on early Grazian *Balillas* was made of a weak alloy that was easily damaged. By 1939, it was replaced by a steel magazine.

• • •

ring normally bears a somewhat elaborate roll-stamped crest. Generally, all *Balillas* manufactured between 1931 and late October 1937 bore the ONB logo, which consisted of a square that enclosed a stylized “lictor’s fasces” and the letters “ONB.” Subsequent to October 1937, when the ONB was replaced by the GIL, the GIL crest, consisting of a circle within which were the letters “GIL” surmounting a licitor’s fasces, was applied to Grazian *Balillas*, although some examples may be encountered that lack the crest. Very few FNA *Balillas* were marked with the GIL logo, as the GIL did not replace the ONB until late October 1937, which was close to the cessation of FNA production that same year.

DRAWING A BLANK

The combination magazine and triggerguard on the FNA, Castelli and late 1941 Grazian *Balilla* is a milled component with an external profile almost exactly like that of the regulation *Carcano* and which, like the full-size counterpart, holds a follower housing, a follower, a follower spring, a clip latch and a clip latch spring.

This assembly on the first version produced by Fratelli Grazian, from 1932 and into mid- or late 1941, is the one characteristic that easily distinguishes it from all of the other *Balillas*, as its external profile has a pronounced bottom bulge. It appears that from the beginning of Grazian production in 1934 until sometime in 1938 this assembly was made of a rather weak pot metal alloy that is easily bent or damaged, and the small internal parts, while similar to those of the FNA, Castelli and later 1941 Grazians, are of lower quality. After 1938, the magazine was made of steel, although it retained the characteristic bottom bulge until late in 1941, when its profile was changed to that of the FNA model.

The magazine holds a reduced-scale clip that holds six specially designed carrier rounds that accommodate the

Here you can see a 1938 Grazian *Balilla*’s bolt action. The bolt itself is made of bronze, as can be seen where the surface finish has worn off. Also note the factory stampings at the front of the receiver.





Except for their reduced size, the bayonet, bracket and front sight are virtually indistinguishable from that of the regulation service carbine.

blank inserts. The blank ammunition used in the *Balilla* carbines consisted of a carrier cartridge whose base was configured to hold a 4.45mm primer used on 12-gauge shotgun shells. The carrier cartridge was made of either brass or steel, was hollow and had a small hole in the tip through which the gas produced by firing the blank vented. The diameter of the “bullet” portion of the round was 5.5mm; its neck diameter was 6mm and the case diameter was 8.7mm.

The clips, dummy cartridges and primers are extremely rare and sought after by collectors. Attempting to fire any type of ball ammunition in these carbines is extremely dangerous. The trigger group is a re-dimensioned *Carcano* two-stage mechanism and consists of a sear, trigger, ejector, bolt stop, and associated springs and pins.

The rear sight on all of the variants of the *Balilla* is an adjustable tangent sight, but there are a considerable variety of styles and construction details. It is interesting to note that even though the *Balilla* could fire only blanks, most but not all sights had hundred-meter range increments indicated on them. While the regulation cavalry carbine had even-numbered hectometers indicated on the top right edge of the sight and odd-numbered hectometers on the top left edge, the *Balilla* carbines typically

Courtesy Giovanni Chaglia



This cover for a school workbook shows a fully kitted-out young *Balilla* squad leader armed with his *Balilla* carbine.

• • •

limited the graduations to even ranges from 6 to 14; while 6, 10 and 14 appeared on the right side, 8 and 12 appeared on the left. Some FNA *Balillas* have been observed with odd increments from 7 to 13 on the left-hand side and 6 through 12 on the right, and some may bear no graduated markings at all.

Imitating that of the regulation carbine, the sight can be flipped forward and rested in a notch in the handguard, exposing a fixed notch combat sight. The front sight is integral to a base, which in turn is part of the bayonet-mounting bracket; there are several slightly different profiles of the front sight blade. The mounting bracket for the attached folding bayonet, like that

of the regulation carbine, is mounted on the muzzle. The head of the screw that secures the bayonet is normally on the right side of the bracket, but may be reversed on some FNA examples.

The bayonet itself has the early-style regulation sliding latch lock mechanism, and replicates the distinctive triangular section of the regulation weapon. Although the tip of the *Balilla* bayonet is relatively blunt to avoid inflicting accidental injuries while the blade is extended, it is nevertheless sharp enough to cause injury if used intentionally in an aggressive manner. It is not unusual to find a *Balilla* carbine with the bayonet missing, as apparently some youth units or institutions which were issued the carbines removed the bayonets to preclude any possibility of injury, accidental or otherwise. The bayonets on some, if not all, *Balillas* produced by Grazian in 1941 were marked with the Castelli logo.

STOCK OPTIONS

The *Balilla*’s front band is same pattern used on the cavalry carbine. It has a distinctive tab on its upper surface that secures the forward portion of the handguard, and it has a sling bar on the left-hand side that lacks the ferrule found on the regulation carbine. The bottom portion of the front band is open on FNA and the early Grazian *Balillas*, but it wraps completely around on the later Grazians. The band is secured to the stock by a pass-through retaining screw. The threaded end of the screw shank is often peened over on Grazian carbines, possibly in an effort to discourage disassembly by the youthful users.

FNA, Castelli and the second-version Grazian *Balillas* have the same type of buttplate as found on the regulation carbine; the buttplate is cast and has a small trap door that allows access to the butt trap in which a two-piece cleaning rod is stored. The early-version Grazian *Balilla* has a bronze buttplate, also with a trap door, that is a bit wider and shorter and has a somewhat flatter contour than the normal *Balilla* buttplate.

There are significant variations in the finish of metal parts depending on

Specifications:

Moschetto Balilla Modello 1891

CALIBER:	6.5mm (blanks)
BARREL:	14.25 inches
OA LENGTH:	29.5 inches
WEIGHT:	3.5-4 pounds
STOCK:	Beech
SIGHTS:	Blade front, adjustable rear
ACTION:	Bolt
FINISH:	Blued
CAPACITY:	6

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The buttplate of the 1941 Grazian (left) is an exact copy of the regulation item. The bronze buttplate of this 1938 Grazian (right) has a significantly different profile.

the manufacturer and the production era. Although the standard finish was a blued finish, with the bolt left in the white, *Balillas* manufactured by Castelli may have all or some metal parts left in the white. Similarly, some Grazian parts may be encountered in the white, while some FNA examples can be found painted black. In addition to using mild steel, bronze was used extensively by Fratelli Grazian, and to a limited extent by FNA. Almost all components of the early Fratelli Grazian *Balilla* can be encountered made of bronze. The only component not made of bronze at one time or another was the magazine housing. All bronze parts were given a blackened finish.

The stocks of the various manufacturers differ somewhat in their dimensions, especially with respect to the thickness of the wrist; minor variations in length can also be encountered. The top of the handguard is notched to allow the adjustable rear sight to flip forward when using the fixed notch battle sight. Although the stock and handguard are normally two separate pieces, as on the regulation carbine, Grazian used a one-piece stock until mid-1941 that incorporated the handguard. The handguard portion was configured to resemble a separate handguard and has to be inspected closely before realizing that it does not in fact separate from the rest of the stock.

Because of the integral handguard, in order to disassemble a Grazian *Balilla* the barrel has to be unscrewed and removed in order to further disassemble the weapon. On all *Balillas* the underside of the forearm has a mortise in which the blade of the bayonet rests when it is folded. The left side of the buttstock has a sling well over which a sling bar is secured by two screws. Stocks were given a boiled linseed oil finish. A number of different types of slings were fitted, ranging from a properly scaled leather sling patterned

after the full-sized sling that was removable, to a light cloth web sling that was a fixed length and was not removable since its ends were looped and sewn.

SERIAL STAMPS

A stock cartouche consisting of two concentric circles on the right-hand side of the buttstock of FNA and Grazian *Balillas* provides information concerning the manufacturer and serial number; the manufacturer's name and location is stamped in the space between the circles. On Grazian carbines, the serial number is stamped inside the inner circle. Generally speaking, from 1931 to 1934 the serial number on FNA *Balillas* was stamped inside the inner circle of the large cartouche on the right-hand side of the stock, but at some point in 1934 (and continuing on through 1937) the serial number was stamped between the butt and the sling well, perpendicular to the axis of the stock.

There could also be an additional, much smaller cartouche consisting of a circle enclosing the FNA logo on the left-hand side to the left of the sling well. The 1941 Grazian carbines also bear a small circular cartouche on the left-hand side of the buttstock in which the notation "COLLAUDO VERONA" (meaning "tested or approved, Verona") and the letters "G.I.L." appear. The Cas-

Note the GIL logo stamped on the forward receiver ring of this 1938 Grazian *Balilla* bolt action as well as the heavily worn, adjustable rear iron sight.

• • •



This 1941 Grazian's receiver ring has no logo stamping. It's not common for a *Balilla* to lack a logo. Note the hectometer markings on the rear sight.

• • •

telli *Balillas* bear only a small oval cartouche on the left-hand side in which the letters "NeVC" are stamped.

FNA *Balilla* carbines, produced between 1931 and 1934, had four-digit serial numbers with no alpha prefix, or four-digit numbers with an "A" or "B" suffix. From 1934 to 1937, FNA used a four-digit number with a letter prefix from the "B" through "D" blocks. There is a strong suspicion that the early "A" block prefix was allocated to *Balillas* produced or assembled by Castelli as observed and documented serial numbers are all lower than "A 2957."

It is not entirely clear if Castelli actually produced the components of the carbines itself, or if it merely assembled components that may have been provided by FNA. Whatever the case, Castelli produced the smallest number of this type of weapon. The serial number ranges, which include initial FNA production with no letter prefix, the latter part of the "A" block, and "B" through "D" blocks, suggest an FNA total of about 50,000 *Balillas*. As mentioned above, Castelli may have been responsible for about 3,000 "A" block *Balillas*.

Fratelli Grazian used a five-digit serial number, the highest observed or reported number being in the early "57XXX" range, indicating that Grazian may have accounted for slightly more than 57,000 *Balillas*, making it the largest manufacturer despite its newcomer status. The vast majority of Grazian *Balillas* were the first version, and possibly as few as 1,500 or less of the later 1941 version were manufactured, making that the scarcest version of the *Balilla*. The overall total produced by all three manufacturers combined is estimated at about 107,000.

The *Balilla* carbines quite obviously fall into the collectable rather than shooter category, but one would make a worthwhile addition to any serious or advanced *Carcano* collector. Given the variety that exists with respect to manufacturers, markings, variations in production and at least three distinct types of *Balillas* manufactured by Fratelli Grazian alone, assembling a collection of *Balillas* could be a rewarding niche endeavor in itself. ■

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JAPANESE NAMBU

By Paul Scarlata • PHOTOS BY SEAN UTLEY



Japan's domestically designed and produced pistols are unorthodox but interesting collectibles!

In the last half of the 19th century, the island nation of Japan made a rapid transition from a medieval-like feudal society to a modern, industrial nation state with imperialistic aspirations. In this short span of time the country's army went from samurai warriors armed with swords, bows and matchlock muskets to a European-style force that, by the 1890s, was armed with modern repeating firearms.

During this transition, Japan relied heavily upon European and American assistance in modernizing its armed forces.

As they would become famous for doing in later years, the Japanese looked abroad and found what they felt were the best products and adapted them.

With the results of the Franco-Prussian War influencing their decision, the Imperial Army's General Staff hired a cadre of German advisors, and by fusing their native samurai traditions with German-style militarism,

• • •

A Japanese senior officer shows off his "Baby" Nambu pistol in China in 1938.

ABOVE LEFT: The Type 14 was the most common Japanese military handgun. A Japanese soldier is shown here carrying one in a holster. Teri Shaw Photo





they created a highly organized and motivated army that would make Japan a threat to the continuing European, Russian and American dominance of Asia and the Pacific.

RISEING SUN SIXGUN

Although the Japanese were quick to take advantage of any and all developments in the area of military rifles, they showed a lack of interest in handguns. Part of this can be attributed to adherence by the officer class to the samurai tradition in which officers traditionally went into battle equipped with only a sword. If an army officer wished to carry a handgun, he was required to purchase one privately.

JAPANESE NAMBU

While most 19th century Japanese officers may have disdained handguns, a modern army had a definite need for them. Cavalry troopers, buglers, mounted messengers, military police, artillery crews, transport drivers, naval landing parties, etc., all needed a lightweight, handy weapon for personal protection—and the revolver suited this purpose to perfection. To meet this need, between 1877 and 1896 substantial numbers of Smith & Wesson revolvers—all in .44 Russian caliber—were purchased by both the army and navy.

But national prestige demanded that the country's armed forces be equipped with weapons of native design and

The safety lever was located on the left side, above the trigger, while the magazine release was inletted into the wooden grip panel. Note the Second Model-style triggerguard.

• • •

manufacture. So, after several years of development and trials, the *Meiji 26 Nen Shiki Ken Ju*, more commonly known as the Type 26 revolver, was adopted in 1893. (Note: In designating military firearms, the Japanese used the year of the reign, or “era,” of the current emperor the weapon was approved during. The Type 26 revolver was approved for service during the 26th year of the Meiji era, which was 1893).

Designed at the Koishikawa arsenal, the Type 26 was a hinged-frame, six-shot revolver intended for issue to enlisted personnel, non-commissioned officers and low-ranking officers whose duties required some sort of sidearm. It was chambered for a 9mm cartridge of uninspiring ballistics and production continued into the 1920s, though they were still issued to Japanese troops as late as World War II.



PRIMARY SOURCES

Japanese firearm design was practically the private preserve of two men: Colonel Nariakira Arisaka and Captain (later Lieutenant General) Kijiro Nambu. Arisaka is best known for his bolt-action rifles that equipped the Imperial forces from 1899 to 1945, while Nambu is recognized as Japan's premier designer of semi-automatic pistols and machine guns.

In 1897, Captain Nambu was assigned to the Koishikawa arsenal, where, between 1902 and 1904, he perfected his first semi-automatic pistol. While its shape was reminiscent of the Luger/Parabellum pistol, it used a pivoting-block locking system.

Upon firing, the barrel extension and separate bolt move rearward together until the barrel strikes the barrel stop. At this point the locking block reaches a cut in the receiver and cams downward into it, unlocking the

The Type 14's magazine retention spring (above) is part of the frontstrap. Also visible is the grooved, aluminum magazine baseplate. The Type 14's ejection port (right) was on top of the receiver. Spent cases were ejected straight up.

• • •

“More than 280,000 units were produced by 1945, making it the most common of all Japanese military handguns.”

bolt from the barrel. The bolt continues to the rear, extracting and ejecting the spent cartridge case and compressing the recoil spring located in a housing on the left side of the frame. The spring then pulls the bolt forward, stripping the next round out of the magazine and chambering it. The bolt pushes the barrel extension forward, allowing the locking block to pivot up, locking into the underside of the bolt as it goes into battery. A trigger disconnect prevents the pistol from firing unless the bolt is locked in the forward position.

The only manual safety device was a grip safety located on the front of the grip frame, which blocked trigger movement unless it was held in. A release for the eight-round magazine was located behind the triggerguard on the left side of the grip.

Known officially as the *Nambu Shiki Jido Kenju* “Ko” (Nambu Automatic Pistol Type A), it was referred to variously as the Model 1904, Type Nambu (Large) or “Grandpa” Nambu. Production began in 1906, and while the army never adopted it, many officers purchased them privately and the navy obtained numbers of them. Navy production was led by a private concern, the Tokyo Gas & Electric Company.

Captain Nambu also designed the cartridge for his pistol, the 8mm Nambu. This consisted of a rimless, bottlenecked case 21mm in length whose 102-grain full-metal-jacket (FMJ) bullet was propelled to a velocity of approximately 960 fps. In 1927, the army adopted the Type 14 pistol, leading to the cartridge’s official designation “8mm Type 14.”

As were many early semi-auto military pistols, the Model 1904 pistol could be ordered with the option of a wooden holster/shoulder stock, which had a telescoping nose section that was extended before attaching it to a slot in the butt of the pistol. As was SOP with shoulder-stocked pistols, the Nambu sported a tangent rear sight that was adjustable from 100 to (a wildly optimistic) 500 meters.

Within a few years, Nambu had modified the original pistol by changing



The Type 14’s front sight, attached directly to the barrel, was a simple, tall blade that could be adjusted for windage.

the shape and size of the trigger, adding a swiveling lanyard ring on the rear of the frame and replacing the wooden magazine base with those made from aluminum. While the Japanese Navy referred to them as “Army Type Automatic Pistol” and “Type 4 Automatic Pistol,” they are known to collectors today as the “Papa” Nambu. Between the world wars, Siam (Thailand), a perennial customer of Japanese arsenals, purchased numbers of both types of pistols while others were provided to pro-Japanese factions in China.

SMALLER & SIMPLER

Heeding requests from high-ranking officers for a smaller, lighter pistol,

Nambu designed the *Shiki Jido Kenju* “Otsu,” the so-called “Baby” Nambu. This was an exact copy that was approximately 75 percent the size and weight of the larger pistol and fired a special cartridge. Production of the “Papa” and “Baby” pistols continued until 1927 at Koishikawa and until 1932 at Tokyo Gas & Electric Company.

The 7mm Nambu cartridge of the pistol consisted of a rimless, bottlenecked case 20mm long whose minuscule 56-grain FMJ bullet achieved a reported velocity of 1,200 fps. As a combat handgun it was a joke but, because of its high price tag, it was a status symbol for more affluent officers who could afford one. Japanese



The knurled cocking knob denotes that this is a later-production pistol. Note the large lanyard ring and rather small rear sight.



The single-stack magazine held eight rounds of 8mm Type 14 ammo, which consisted of a bottlenecked case and a 102-grain FMJ bullet.

officers also purchased large numbers of foreign pistols from dealers and officers’ cooperatives. These were mostly 7.65mm (.32 ACP) automatics, with German and American brands being the most popular.

Between 1916 and 1921, Nambu modified his pistol in order to make it simpler and cheaper to produce, and in 1927 the Japanese Imperial Army officially adopted the improved model as the 14 *Nen Shiki Jenju* (Type 14 Pistol). It had the same general outline of the “Papa” Nambu but used a simplified bolt, locking block, safety, magazine and dual recoil springs on either side of the bolt. Additionally, a rotating safety lever was mounted on the left side of the frame above the trigger, while a magazine retention spring in the front-strap prevented inadvertent loss of that important component.

While a number of minor variations of the Type 14 exist, the two most common are the so-called First and Second Models. These differ primarily in that the Second Model features a larger triggerguard, which makes the pistol easier to operate when wearing gloves.

Type 14s were manufactured by government arsenals at Koishikawa/Kokura, Nagoya and by a private firm set up by General Nambu after he retired from the army, the Nambu Rifle Company (later known as Chuo Kogyo Co., Ltd.).

More than 280,000 units were produced by 1945, making it the most common of all Japanese military handguns.

SLIPPING STANDARDS

As the war dragged on, Japanese arsenals modified weapons for more rapid and cheaper production, and the Type 14 was no exception. Quality of fit and finish deteriorated: The grooved cocking knob was replaced by one with fine (and later coarse) knurling, the magazine retaining spring was often deleted, and they were fitted with grip panels of plain, unfinished wood.

After he had opened his own factory in the 1930s, Nambu was approached by the Japanese Imperial Army with a request for a smaller, lighter pistol for air crews, tank crews, paratroopers and

other specialist troops, with speed and cheapness of manufacture being the utmost priorities.

Designated the Type 94, the new pistol used a reciprocating tubular slide with a separate breechblock and a recoil spring that surrounded the barrel. There are no slide rails on the frame, and the slide and barrel are held in place, and reciprocate on, two upward frame projections above the triggerguard and a bridge at the rear that is integral with the frame. Its oddly shaped grip decreased bulk and better fit the small hands of the average Japanese soldier.

Type 94s are notable for their exposed sear bar on the left side of the frame; any pressure on the front of this piece will fire the pistol without the trigger being pulled. This caused U.S. troops to bestow the nickname “Suicide Special” upon it.

The quality of late-production Type 94s was abysmal, with many being issued with no finish, raw wood grips and “non-essential” components deleted to speed up production. In excess of 71,000 units were produced by the end of the war.

Aside from military use by Japan, all models of Nambu pistols saw service with the armies of Thailand and China. Both communist and nationalist Chinese forces captured numbers of them during WWII, which were supplemented with the vast quantities of arms surrendered by the Japanese at the end of the conflict. All sorts of ex-Japanese weaponry saw service in the Korean War with communist Chinese and North Korean forces. Others saw service with Indonesian nationalist guerillas during their fight for independence from the Netherlands.

While I found the Type 14 a fascinating weapon, it displayed enough shortcomings that I really cannot understand why it was adopted by one of the world’s most prominent military powers. Perhaps national pride? But, while I’d much rather have had an FN Hi-Power or a Walther P.38 for combat any day, the Type 14 does make for an interesting collectible! ■

Specifications:	
TYPE 14 NAMBU	
CALIBER:	8mm Type 14
BARREL:	4.75 inches
OA LENGTH:	8.93 inches
WEIGHT:	32 ounces (empty)
GRIPS:	Wood
SIGHTS:	Front blade, rear notch
ACTION:	Semi-auto
FINISH:	Black
CAPACITY:	8+1



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COLT MODEL 1905

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By Dennis Adler

1911 EVOLUTION

A constantly evolving and maturing design, the 1911 went through its various stages of development. Shown are the principal guns designed by John M. Browning and manufactured by Colt from the Model 1900 through the Model 1911A1.

Before the turn of the last century, European gun-makers were working in earnest to design a practical self-loading pistol. The first real breakthrough came in 1893 with a design by Hugo Borchardt and his colleague Georg Luger. The Borchardt Automatic Repeating Pistol was an unusual-looking gun, but within its design was the toggle lock action that would become the underpinning for Georg Luger's first 9mm Parabellum, introduced in 1900. Though an important and enduring design, the Luger toggle lock was complicated. German armsmaker Mauser came up with an entirely different approach in 1895 by using a bolt mechanism to extract and eject the spent cartridge casing, with the slide re-cocking the hammer on the

recoil stroke and the bolt stripping a fresh cartridge from the magazine and chambering it as the slide rebounded. If that sounds vaguely familiar, it is the way almost every semi-auto pistol in the world works. The Mauser design was called the C96, better known today as the Broomhandle Mauser, and it was one of the most influential handguns in history. By 1900 a handful of American lawmen were already carrying Mauser self-loaders. The U.S. government even tested the Luger 9mm and Mauser 7.63mm semi-autos for possible adoption as a new military sidearm. But John Moses Browning, America's preeminent arms designer, had another idea.

Browning's earliest patent for a semi-auto is dated April 20, 1897, a date that would appear on the slides of Colt pistols for nearly half a century. Between 1900



1900



1902



1903



and 1911, his designs would make the Colt's Patent Fire-Arms Manufacturing Co. one of the world's leading producers of semi-automatic pistols. The road leading up to the introduction of the most famous semi-auto in Colt's history, the Model 1911, was one previously traveled by a variety of innovative and popular Browning designs for Colt and *Fabrique Nationale* (FN) in Belgium.

Browning had been responsible for one of the earliest small-caliber autoloaders to find favor with Western lawmen, the Belgian-manufactured FN Model 1900 chambered in 7.65mm (.32 ACP). Browning had licensed his 1897 patent design to Colt's for that maker's Model 1900, which was chambered in the new .38 rimless, smokeless caliber (originally called a Colt Automatic Pistol Hammerless cartridge, or CAPH, and later shortened to ACP), a

cartridge more closely related to the .38 Long Colt then in use by the U.S. military for the Colt's double-action (DA) revolver. The Model 1900 formed the basis for an entire series of semi-automatic pistols that would follow for the next century. Though only produced through 1903 and limited to around 3,500 guns, in the design of the Model 1900 can be seen in the foundation for the Model 1905, which preceded Browning's benchmark Colt Model 1911.

THE MILITARY IMPERATIVE

One of the great incentives for further development by Browning and Colt in the early 1900s was the U.S. military's keen interest in seven-shot semi-autos. Both the Army and Navy procured Model 1900 Colt pistols for evaluation, around 50 for the Navy and 200 for the Army. The improved

The Model 1905 chambered in .45 ACP was the first major development in creating the Model 1911. Shown above is an early Model 1905, serial number 2247, produced around 1907 with the early checkered, round, color-casehardened hammer.



1905



1911



1924

COLT MODEL 1905



A pair of old warhorses, these well-preserved Models 1905 (top) and 1911 (below) show the fundamental changes made by Browning and Colt to arrive at a sidearm acceptable to the U.S. military.

Colt Model 1902 (sporting) automatic pistol found even more favor with the government. Changes in the design were a rounded hammer, a shorter firing pin (deemed necessary to avoid accidental discharge if the hammer were inadvertently struck while a cartridge was chambered), a notched rear dovetail-mounted sight and checkered hard-rubber grips. To meet Ordnance Department requirements, the military versions had a longer grip squared at the butt (as opposed to the rounded-contour grip on civilian models), a lanyard swivel on the lower left side of the grip frame, a slide stop on the left side of the frame and a seven-shot magazine, one more round than civilian versions. The 1902 Military remained in the Colt's catalog until 1928 with production reaching over 47,000.

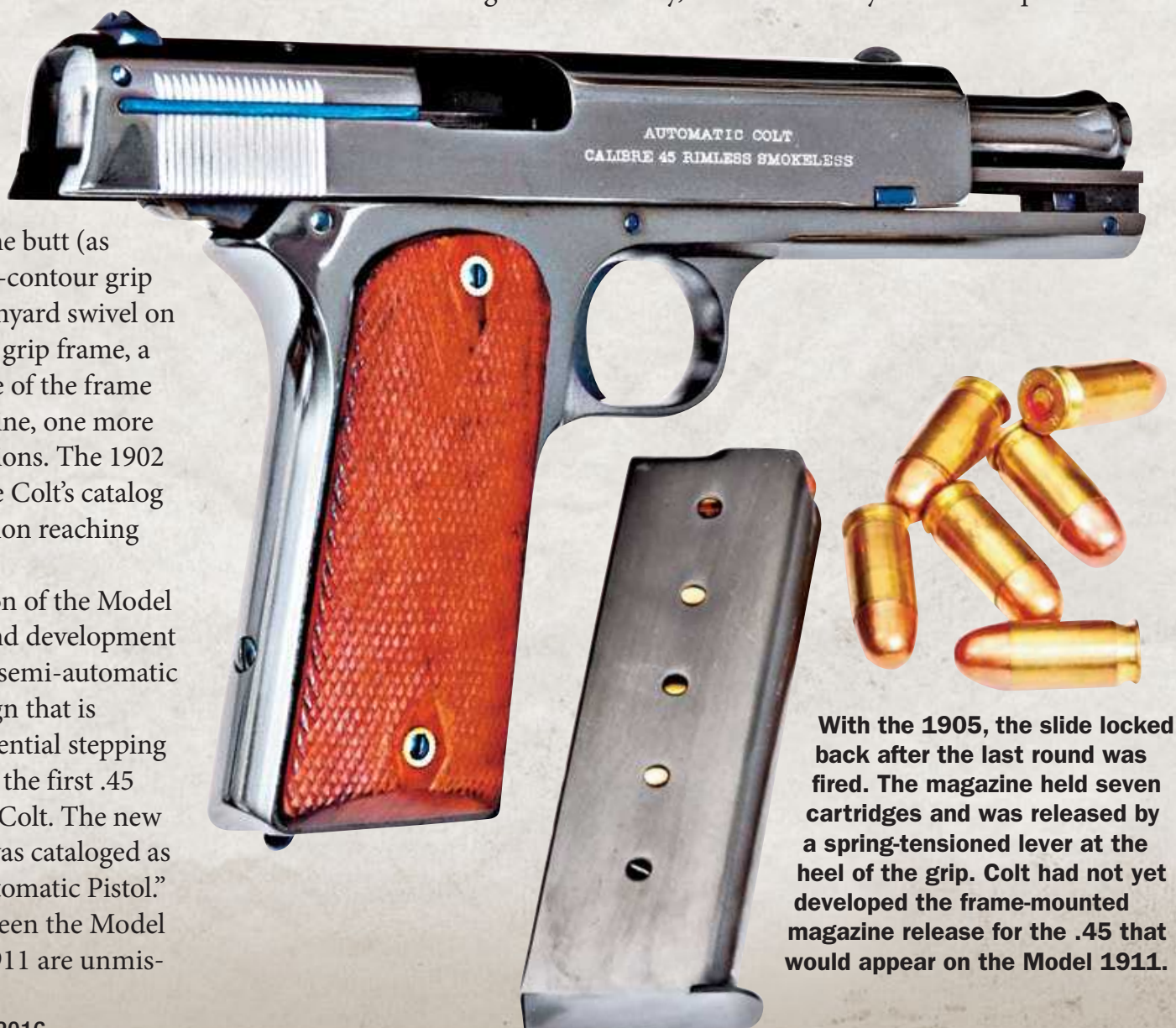
In between production of the Model 1902, the Model 1903 and development of the first Hammerless semi-automatic Colt pistols came a design that is regarded as the quintessential stepping stone to the 1911. It was the first .45 ACP semi-auto built by Colt. The new large-caliber handgun was cataloged as the "Model 1905 .45 Automatic Pistol."

The similarities between the Model 1905 and later Model 1911 are unmis-

takable, as are the differences. Colt's first .45-caliber semi-auto used a rimless, smokeless cartridge also designed by John M. Browning. The new gun and .45 cartridge were exactly what the U.S. military had been waiting for—an autoloader with comparable power to the venerable Colt Single Action Army,

which had remained the nation's principal military sidearm until 1892. The big .45-caliber Colt had unwisely been supplemented since then by a series of less effective .38-caliber DA revolvers chambered in .38 Long Colt, .38 S&W and .38 Special, nothing with the punch of an old Peacemaker, that is until the .45-caliber Colt New "Service" DA pistol came along in the year 1909.

It is worthy of note, however, that the U.S. did purchase and issue small numbers of the Colt Model 1878 DA revolver chambered in .45 Colt. In 1905, however, the idea of a .45-caliber semi-auto had greater appeal to the U.S. military. Unfortunately, as a sidearm for servicemen, many of whom had little or no experience with firearms nor held any great interest in learning to become proficient with them, the Model 1905 left a lot to be desired. It was complicated compared to a revolver, and recoil with the semi-auto was substantial. Nevertheless, in 1907 the U.S. government placed an order for 200 Colt .45-caliber semi-autos for evaluation. The military versions required Colt



With the 1905, the slide locked back after the last round was fired. The magazine held seven cartridges and was released by a spring-tensioned lever at the heel of the grip. Colt had not yet developed the frame-mounted magazine release for the .45 that would appear on the Model 1911.

“One of the great incentives for further development by Browning and Colt in the early 1900s was the U.S. military’s keen interest in seven-shot semi-autos.”

• • •

to develop a grip safety, which was engineered by Colt factory designers Carl Ehbets and George Tansley, who patented the design. Browning had also patented a similar grip safety device first seen on the *Fabrique Nationale* Model 1905-FN 6.35mm pocket models and later on Colt’s Model 1908 Hammerless .25 ACP.

The .45-caliber 1907 contract models (which differed from civilian models built in 1907) also had to be designed to accept a detachable shoulder stock (which Colt later offered as a shoulder stock holster for the civilian market), be configured to use a spur-type hammer, rather than the civilian-style rounded hammer (there were four different hammer designs throughout the gun’s production history), and have a lanyard loop so soldiers could tether the handgun to a braided lanyard worn over the shoulder. In addition, the government wanted modifications to the ejector and ejection port, which was enlarged. All 200 guns, which had their own serial-number range, were equipped with a grip safety and are regarded as the rarest variation today.

Cavalry field tests still found numerous faults with the guns for military application. Reporting on the field tests, Lieutenant Burnett, of Troop H, 4th Cavalry, Fort Snelling, Minnesota, wrote that “...the automatic pistol in its present state, [is] totally unfit for use by troops...I am somewhat doubtful of the wisdom of arming the average enlisted man with an automatic pistol.” Burnett had also commented that the pistols were awkward to handle on horseback and that there was concern over the possibility of an accidental discharge

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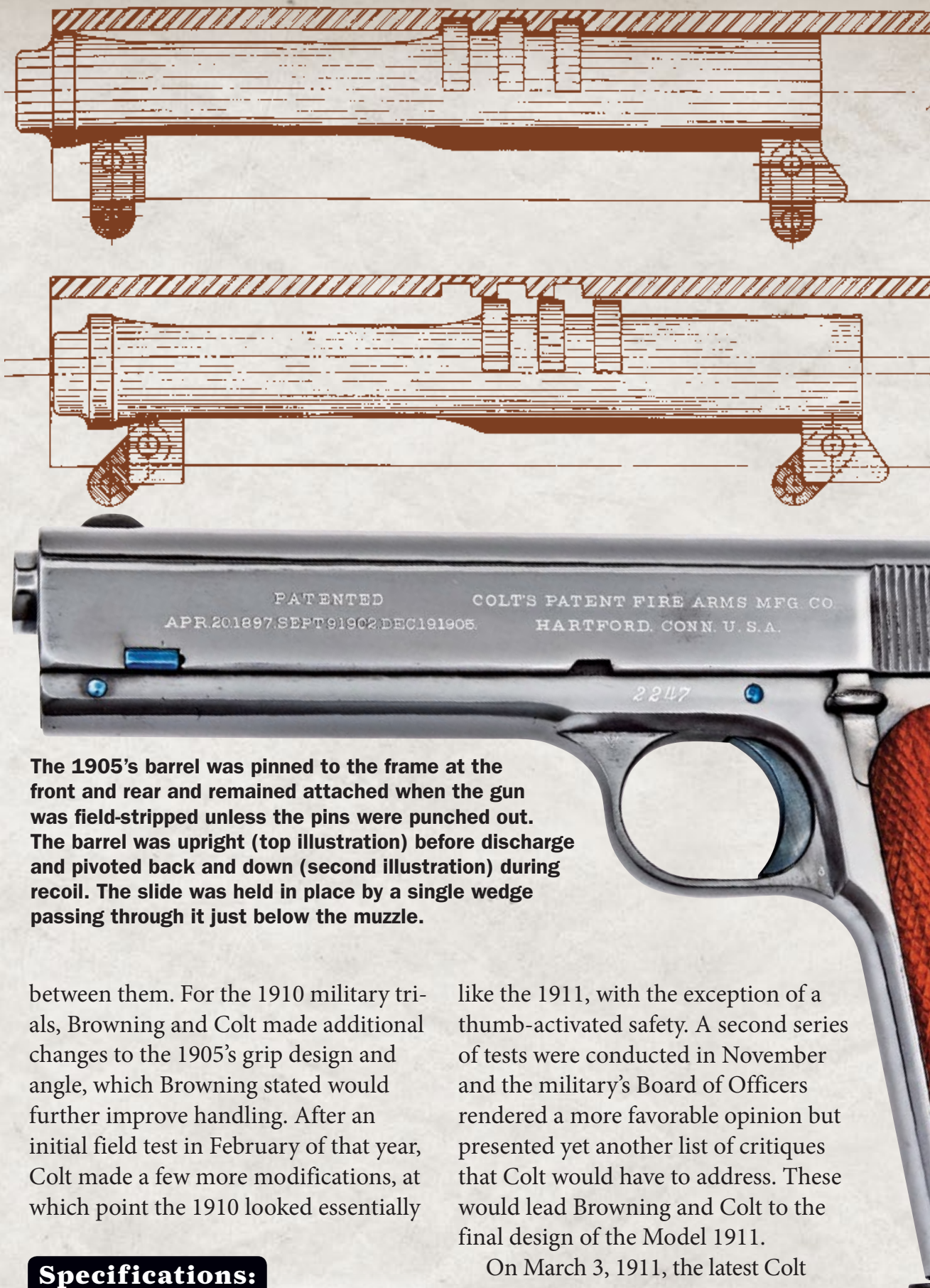
COLT MODEL 1905

that might result from carrying the pistol cocked and ready to fire. One could question the logic of carrying the Model 1905 cocked, as no soldier or cowboy would have ever carried a Colt SAA cocked in the holster! The Model 1911 would finally assuage this issue with the manual thumb safety, allowing the .45 autopistol to be carried “cocked and locked.”

Although the government tests in 1907 were somewhat damning, Colt and Browning reworked the design once more for the military in 1909, and again in 1910. Among the notable improvements was a change from the double-link barrel locking system to a single toggle link. The Model 1905's operation was similar to the Model 1902 Military Model (chambered in .38-caliber rimless smokeless) and had the barrel pinned to the frame via two pivoting barrel lugs, thus it was attached at both the muzzle and breech ends, which made the 1905 an inherently accurate handgun. The slide was secured to the frame by a wedge passing through it just below the muzzle; over time this would prove to be a design weakness and one of two principal points of failure with the Model 1905.

Upon firing, the 1905 barrel would pivot back (down), disengaging from corresponding grooves in the slide, allowing it to unlock from the barrel and continue its forward movement. In order to take the 1905 barrel out of the frame for field stripping two small pins had to be punched out; this was a much more complicated method and the second point of failure with pins occasionally fracturing. For the 1911, Browning used a single toggle link that also served to anchor the barrel, thus making disassembly much easier and the overall design much stronger. This also established the tilting barrel design that has remained a global standard among armsmakers for over a century.

Another notable difference in design is that the 1905's slide is withdrawn from the frame by pulling it off the back, whereas the 1911 slide is removed by pulling it forward. Both models also used a recoil spring plug although the designs and operation greatly differed



The 1905's barrel was pinned to the frame at the front and rear and remained attached when the gun was field-stripped unless the pins were punched out. The barrel was upright (top illustration) before discharge and pivoted back and down (second illustration) during recoil. The slide was held in place by a single wedge passing through it just below the muzzle.

between them. For the 1910 military trials, Browning and Colt made additional changes to the 1905's grip design and angle, which Browning stated would further improve handling. After an initial field test in February of that year, Colt made a few more modifications, at which point the 1910 looked essentially

like the 1911, with the exception of a thumb-activated safety. A second series of tests were conducted in November and the military's Board of Officers rendered a more favorable opinion but presented yet another list of critiques that Colt would have to address. These would lead Browning and Colt to the final design of the Model 1911.

On March 3, 1911, the latest Colt semi-auto design performed flawlessly, firing 6,000 rounds of ammunition and addressing all of the Ordnance Department's concerns, including the addition of an external safety so the gun could be carried with the hammer cocked. On March 29, U.S. Secretary of War Jacob M. Dickinson approved the selection of the Colt Browning as the “U.S. Pistol, Automatic, Calibre .45, Model 1911.” The government's initial order was for 31,344 pistols. After two world wars, over 2,550,000 Model 1911/1911A1s had been produced for the U.S. government.

Specifications:

COLT MODEL 1905

CALIBER:	.45 ACP
BARREL:	5 inches
OA LENGTH:	8 inches
WEIGHT:	33 ounces (empty)
STOCK:	Hand-checked walnut
SIGHTS:	Fixed front, dovetailed rear
ACTION:	SA
FINISH:	Blued w/color casehardened hammer
CAPACITY:	7+1

The final design that emerged for the Model 1911 incorporated all of the features requested by the Ordnance Department and Board of Officers with the exceptions of a loaded chamber indicator and an indicator showing the number of cartridges remaining in the magazine. Neither feature was ever added to the gun's design, although 1905 and 1911 magazines do have witness holes.

Despite the government's reluctance and the 1907 contract pistol's various failures under military testing conditions, Colt's commercial sales of the Model 1905 reached a total of 6,100 by the time the gun was discontinued in the year 1911.

OLD BUT NOT OUTDATED

Although the Model 1905 had been replaced by the Model 1911, many 1905s ended up in the holsters of lawmen patrolling what remained of the western frontier along the border with Mexico. Things were still pretty unsettled out west in the early 1900s; Arizona and New Mexico wouldn't even be granted statehood until 1912. Some of the earliest lawmen to adopt .45 autopistols were Texas Rangers. As early as 1912 there are photos of Rangers armed with Colt Model 1911s, and by the postwar era it was to become the most commonly carried sidearm. Among famous Texas Rangers who carried 1911s in the early to mid-1900s were Captain Manuel T. "Lone Wolf" Gonzauillas, who had a specially modified 1911 with a cutaway trigger-guard (like a FitzGerald special Colt revolver), and H. Joaquin Jackson.

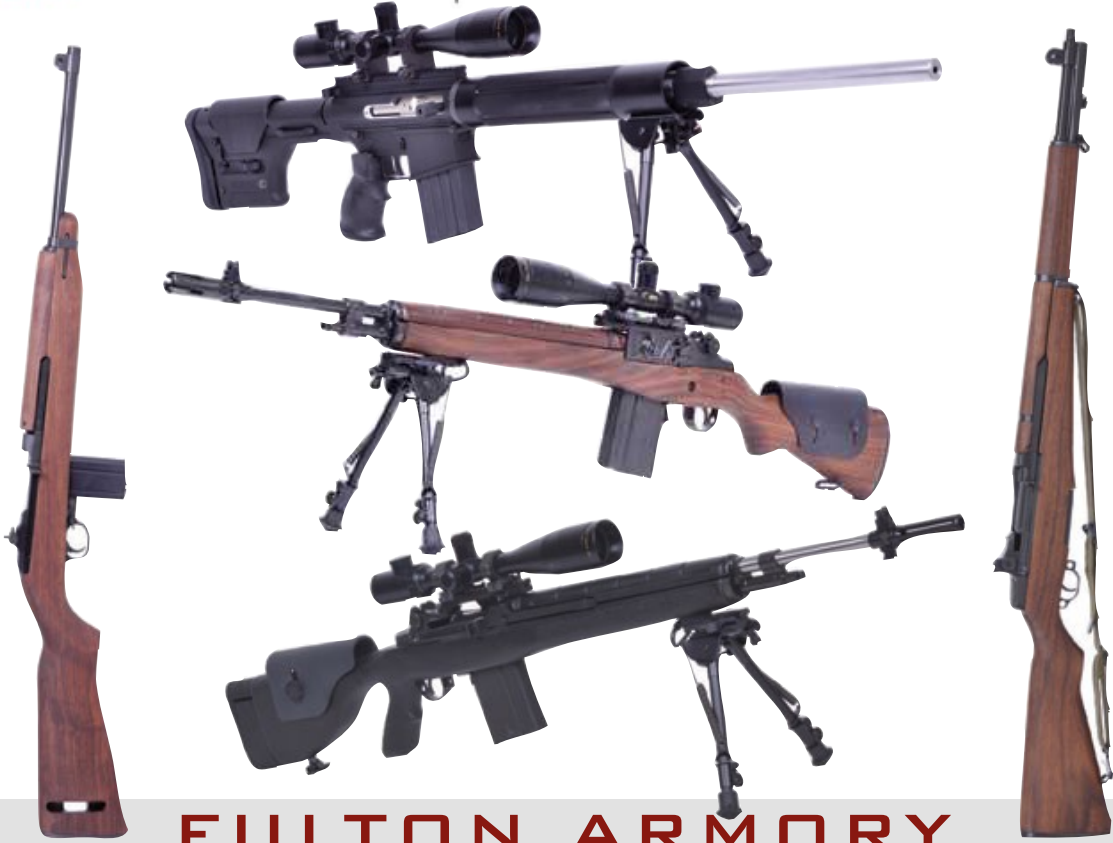
While the 1905's successor was adopted as the official sidearm of the U.S. Army, Navy, Marine Corps and numerous federal agencies, the 1911 was not readily available on the commercial market since almost all early production was allocated to the U.S. military, thus John Browning's innovative Model 1905 would continue well into the early 20th century to pave the way for the future of .45 semi-automatic pistols. Today, a pristine Model 1905 can demand upwards of \$7,200 at auction, and they continue to remain a rare and desirable find. ■

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YUGOSLAV M70 B1



**Custom 7.62x39mm
Cold War-era AK build
with Apex Gun Parts
and In Range!**

Thanks to a parts kit from Apex Gun Parts, a NoDak Spud receiver, assorted TAPCO parts and the efforts of Troy Sellars of In Range, this M70 B1 custom-built AK became a reality.



**“Yugoslav AKs
are unique variants of the Kalashnikov
rifle, featuring numerous enhance-
ments over a basic AK-pattern rifle.”**



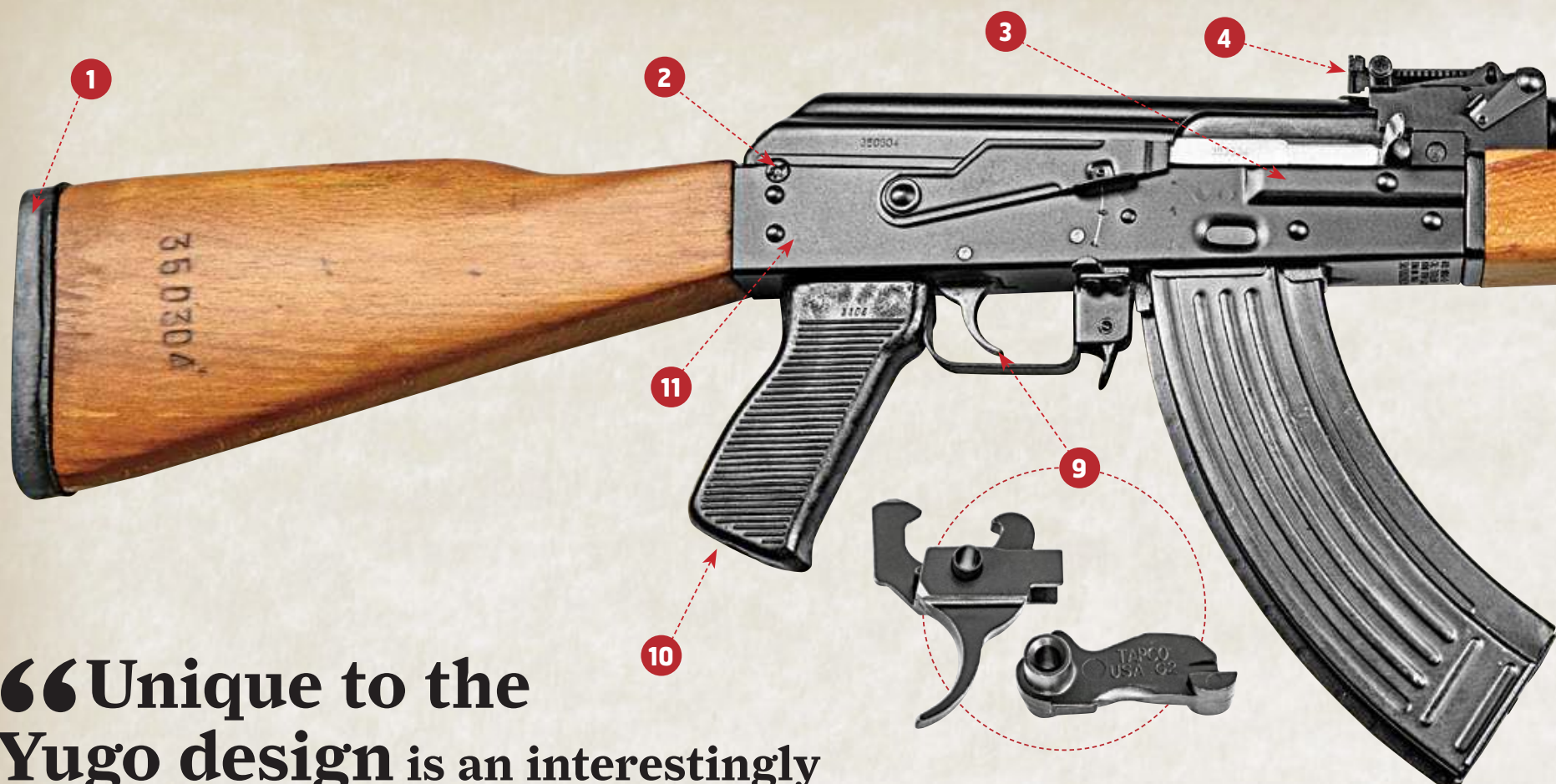
By Michael O. Humphries

• PHOTOS BY STEVE WOODS •

FOR MANY, “MILITARY SURPLUS” encompasses more than simply just firearms. It can be the collecting of accessories and gear such as uniforms and helmets, or even firearms parts and accessories. But how about those unique finds that fit somewhere in between? I am referring specifically to “parts kits,” which more often than not are military guns that are not importable in their original configurations and have been demilled/disassembled and had their barrels and receivers cut.

These kits are in most cases made from small arms that are select-fire or fully automatic in operation and cannot be purchased by civilians in their original form, as compared to bolt-action and semi-automatic rifles and carbines that can be sold in their as-issued configurations.

While there is a good selection of interesting machine gun and submachine gun parts kits available on the surplus market these days, rebuilding these into U.S.-legal semi-automatic firearms can be complicated, expensive or both. However, there is also a large number of AK-pattern parts kits that appear on the surplus market from time to time and have the advantage of being relatively easy (for a skilled gunsmith) to rebuild into a U.S.-legal, semi-automatic rifle.



“Unique to the Yugo design is an interestingly simple solution to the lack of a bolt hold-open on the standard AK—a magazine with a follower that catches the bolt.”

But where would you find one of these? I personally have had a good deal of luck with Apex Gun Parts after having discovered the company a few years back. In that time, I have picked up some really interesting East German, Hungarian, Polish and Romanian AK kits from the company, and I make sure to keep an eye out on the company’s website for when some new treasure may pop up.

It was during one of these forays that I discovered a kit that I had wanted to pick up for quite a while—a Yugoslav M70 B1 parts kit. It was described as being in excellent condition and featured matching numbers. Yugoslav AKs are unique variants of the Kalashnikov rifle, featuring numerous enhancements over a basic AK-pattern rifle.

I immediately put in an order on the website and began planning out the project. It also occurred to me that this might be an interesting basis for not only an article about the kit I bought, but

Gibbs Matra Magazine

Manufactured in the Balkans to tough mil-spec standards, the new Gibbs Matra Magazine is a 30-round, all-steel AK magazine ready for duty. It features ribbed walls and a useful bolt-hold-open follower that locks the action of the rifle open when the magazine runs dry. Each magazine comes with an unlimited five-year warranty. For more information, visit gibbsrifle.com or call 304-274-0004.



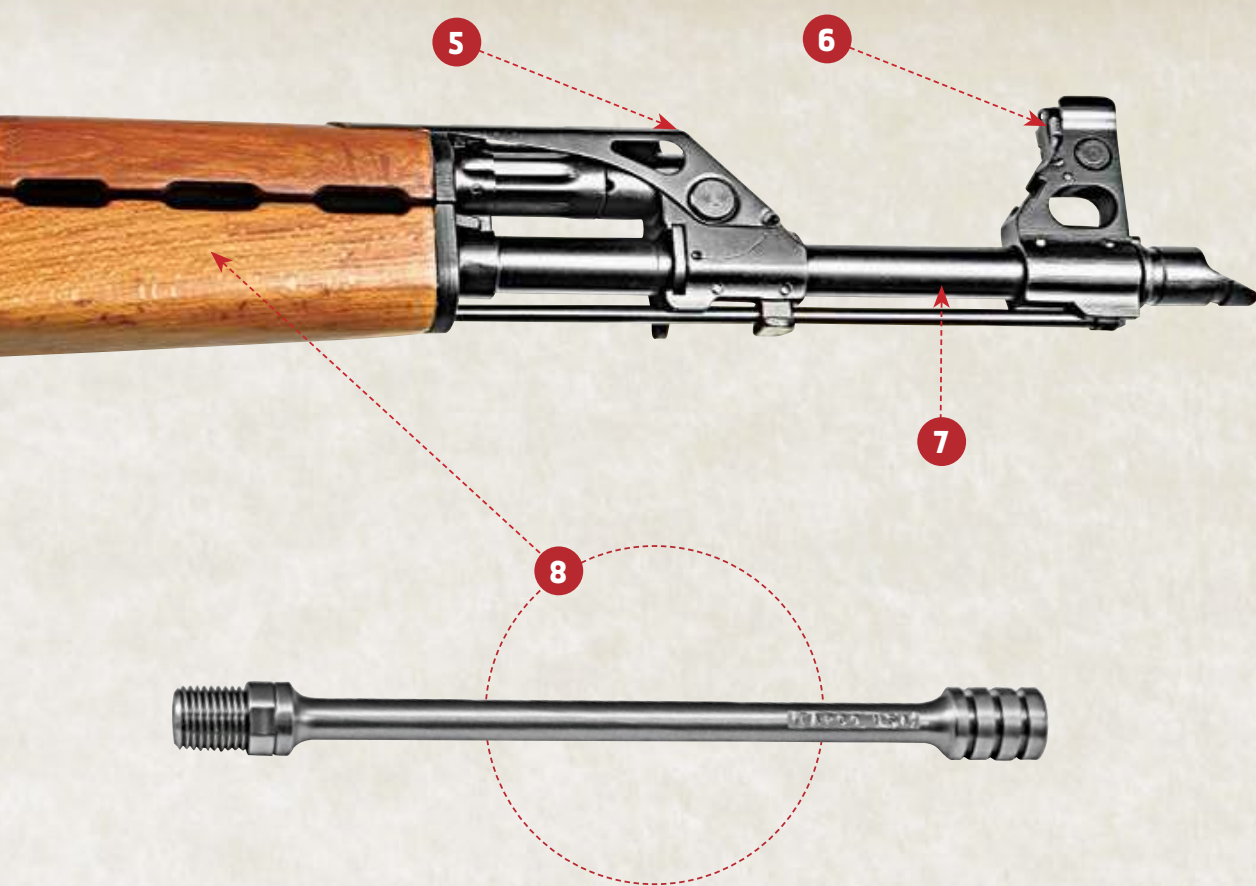
also the company itself. To that end, I put in a request with a contact at Apex to get some background information for this piece.

RARE FINDS

Apex, which stands for “Armory Parts Exchange,” was founded in 2004 by Jeff Selvig, whom I recently had an opportunity to interview about his company. Selvig, who worked both as an overseer of a bonded warehouse and as a salesman in the distributor section of a major East Coast firearms importer, saw the potential for a new approach to the business.

“I had the opportunity to travel the world and see behind the scenes of the market in surplus firearms during my time there,” Selvig explained. “I noticed that there were many firearm manufacturers, firearms importers and firearms dealers, but not really many specializing in just selling parts. The ones that were tended to be older, established companies that were not making a rapid or successful transition to the digital marketplace.”

Recognizing that there was a growing demand for this type of service in the digital community, Selvig struck out and founded Apex Gun Parts in



Yugo M70 B1 Notables

The M70 B1 has many notable and unique characteristics that set it apart from a standard AK-pattern rifle. Following is a breakdown of some of these features along with the U.S.-made 922r compliance parts employed in this one's construction.

- 1** Rubber recoil pad
- 2** Top cover lock
- 3** RPK-style trunnion
- 4** Luminescent rear sight
- 5** Folding grenade sight
- 6** Luminescent front sight
- 7** *AK Builder barrel
- 8** *TAPCO gas piston
- 9** *TAPCO G2 trigger group
- 10** Enhanced pistol grip
- 11** *NDS-5 receiver
- * 922r compliance parts

2004 in the small town of Palmer Lake in Colorado. “The first products the company sold were mainly comprised of old Mauser parts and bayonets sold through eBay, Gunbroker and website discussion forums,” he told me. “One of the first big deals on parts kits for the company was a batch of U.S. M2HB .50-caliber kits that were imported from the former Yugoslavia.”

In the years since its humble beginnings in 2004, Selvig as president has shepherded the company's development into the successful venture it is today. “We adopted a saying years ago that ‘We sell customer service in the form of gun parts,’” Selvig said. And this customer-oriented approach has proven to be quite successful, with the company having expanded to the point that, in 2012, it moved to a large warehouse located in Colorado Springs, Colorado.

I was particularly curious to ask Selvig how the company locates such interesting products. “Basically, the surplus industry is dictated by overseas availability. As an example, for years there may be no Hungarian AK parts kits available, and then somewhere, in some office inside the Hungarian Ministry of Defense, there is a decision to replace a certain model and quantity of

Hungarian-manufactured AKs. Suddenly, what was once rare is now available in abundance,” he said.

THE “CADILLAC” OF AKs

So now with some insight into the story behind Apex, I moved on to consider the history of the Yugoslav parts kit I had purchased. Yugo AKs are extremely interesting, just as the complex history of Yugoslavia itself is. Yugoslavia followed what has been dubbed the “Third Way” or the “non-aligned” movement, in which the nation sought to find a new path apart from the communism of the East and the capitalism of

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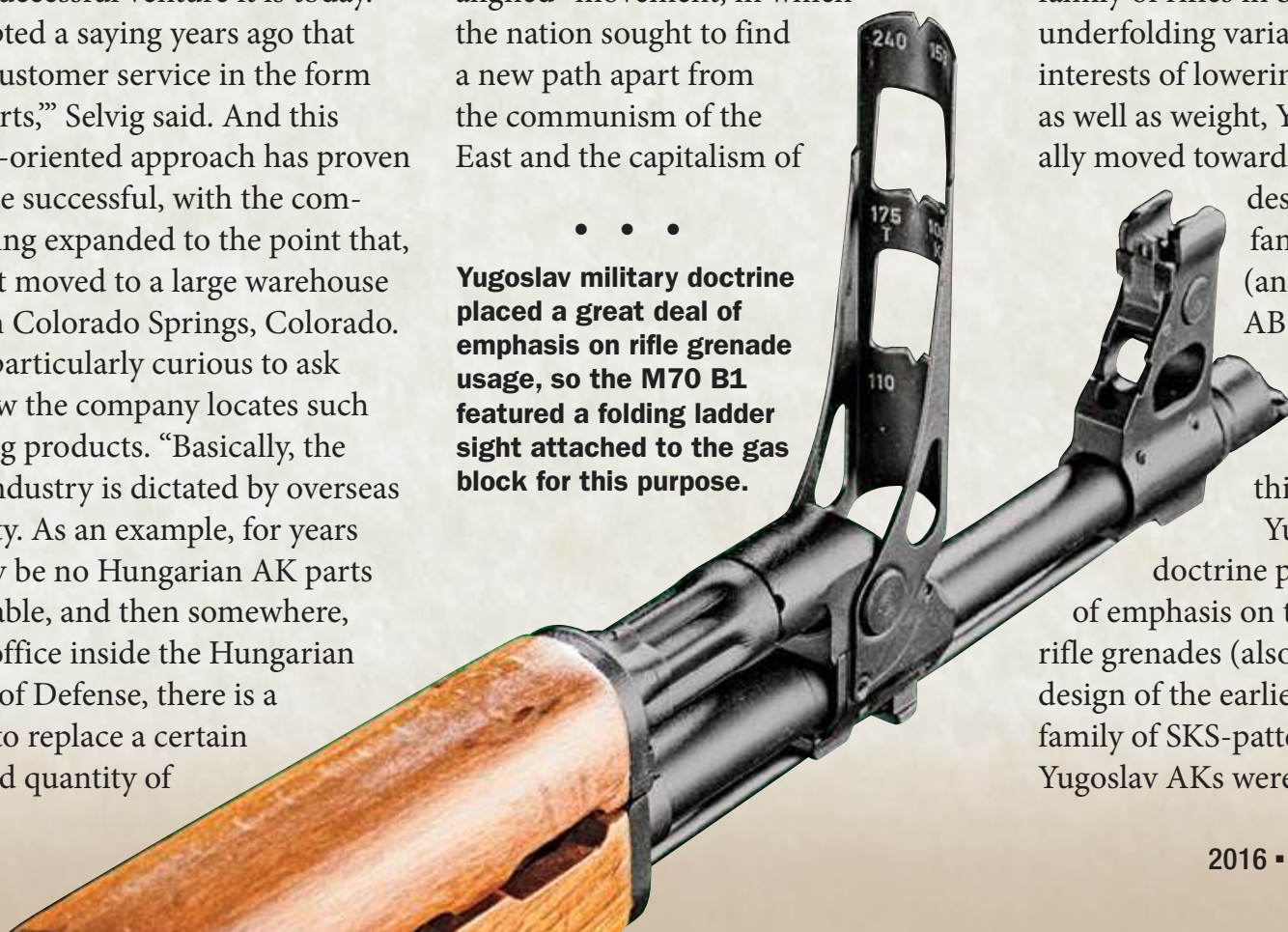
Yugoslav military doctrine placed a great deal of emphasis on rifle grenade usage, so the M70 B1 featured a folding ladder sight attached to the gas block for this purpose.

the West. The result was a distinctly divergent socialist nation with its own unique (yet familiar) firearms.

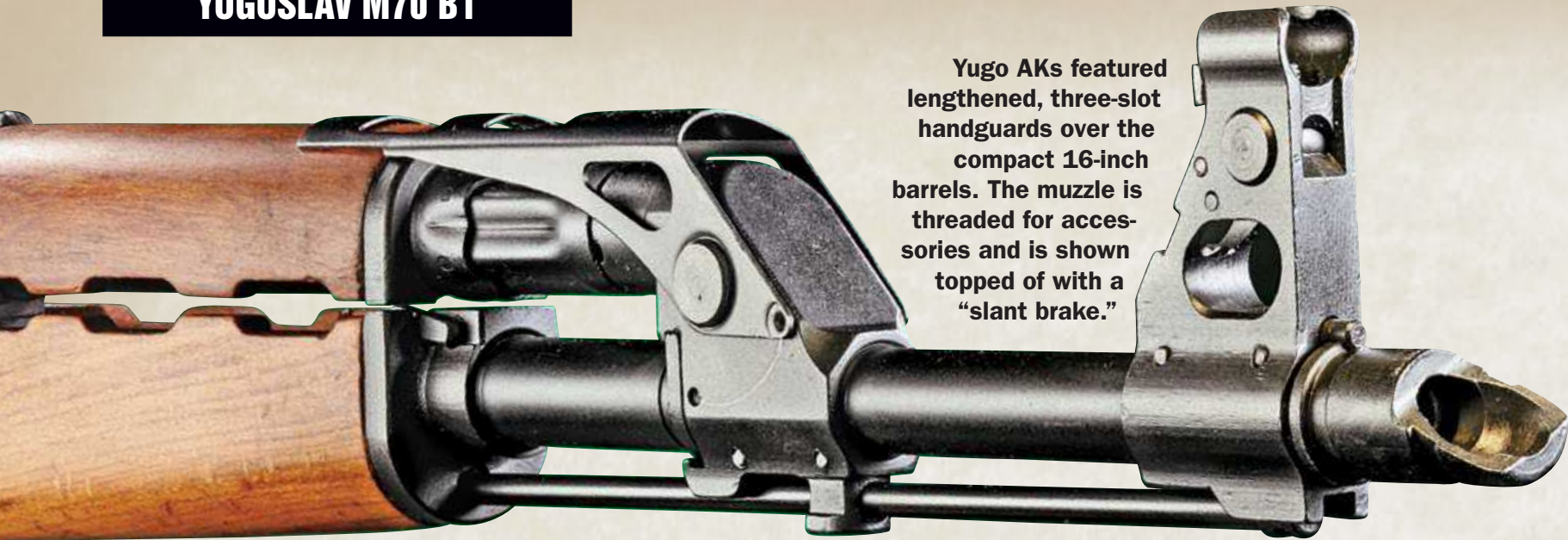
While not a member of the Warsaw Pact, Yugoslavia nonetheless decided to build its own domestic, unlicensed copy of the AK rifle as it recognized the strengths and merits of the design. Its earliest AK variants were built on milled receivers (as was the case with the Soviet AK due to early issues with producing stamped sheet-steel receivers), with the M64 and the M70 family of rifles in both fixed-stock and underfolding variants. However, in the interests of lowering production costs as well as weight, Yugoslavia eventually moved toward a stamped receiver

design with its M70 B1 family of fixed-stock (and underfolding M70 AB1) rifles, with the earliest variants featuring receivers with 1-millimeter-thick walls.

Yugoslav military doctrine placed a great deal of emphasis on the launching of rifle grenades (also apparent in the design of the earlier Yugoslav M59/66 family of SKS-pattern rifles), and the Yugoslav AKs were designed to employ



YUGOSLAV M70 B1



Yugo AKs featured lengthened, three-slot handguards over the compact 16-inch barrels. The muzzle is threaded for accessories and is shown topped of with a “slant brake.”



FAR LEFT: The heart of this build is the U.S.-made NoDak Spud NDS-5 receiver. Note its raised RPK-style trunnion at the front.



LEFT: Another unique feature of the Yugo AK rifle is its rubber buttpad. Also note the prominently emblazoned serial number on the stock, which matched the rest of the parts in the kit.

these through the use of a detachable launcher spigot for the threaded muzzle that would work in concert with a folding ladder sight atop the upper handguard/gas tube. However, it was soon discovered that this placed a great deal of stress upon the stamped receiver of the rifle. As a result, the rifles were redesigned to employ a receiver with 1.5mm-thick walls and an RPK-style enlarged portion around the trunnion.

Other unique enhancements of the design include a top cover-retaining button that helps keep the cover in place under the heavy recoil of firing rifle grenades. A push button located at the upper left-rear portion of the receiver must be pressed to remove the non-ribbed top cover. Another unique feature of the Yugo rifles is its sighting system, which at first blush appears to be a standard AK design with a sliding tangent rear unit marked out to 1,000 meters and a winged post front. Closer inspection reveals folding leaf units with luminous inserts—two inserts on the rear leaf and a single on the front. They can be folded down and out of the way when not needed.

Externally, Yugo AKs differ from their Soviet counterparts in several ways. They feature lengthened, three-slot handguards, the aforementioned folding ladder sights atop the handguard, more generously sized pistol grips and rubber buttpads on the fixed buttstocks. Also unique to the Yugo design is an interestingly simple solution to the lack of a bolt hold-open on the standard AK—a magazine with a follower that catches the bolt of the rifle in the open position when it runs

empty. However, there is no internal catch inside this Yugoslav rifle and the bolt will simply slam closed when the magazine is removed.

REBUILDING HISTORY

With the M70 B1 kit on its way, I set about the process of having it turned into a working, civilian-legal, semi-automatic rifle. From past experience on projects like this, I knew that the build would require a certain amount of U.S.-made parts for the rifle to be Section 922r compliant under current firearm regulations. With a stamped-receiver gun like this, it would take a minimum of six U.S.-made parts to achieve this.

A logical starting point would be a new barrel and receiver, as they were the two primary parts not included with the kit. For the barrel, I ordered a non-chrome-lined AK Builder barrel from Apex when I ordered the kit. For the receiver, I picked up a NoDak Spud NDS-5 M70 B1 receiver designed for this unique rifle and featuring the thicker 1.5mm construction and enlarged RPK-style trunnion area.

Specifications:	
Yugoslav M70 B1	
CALIBER:	7.62x39mm
BARREL:	16 inches
OA LENGTH:	36 inches
WEIGHT:	9.25 pounds (empty)
STOCK:	Wood
SIGHTS:	Winged post front, sliding tangent notch rear
ACTION:	Semi-auto
FINISH:	Moly resin coating
CAPACITY:	30+1



Troy Sellars of In Range is shown here putting the final touches on the M70 B1 semi-automatic rifle in his shop.

That left me with four more parts that I needed to acquire. The next logical step was a new semi-auto fire control group, so I picked a TAPCO G2 Trigger Group (made up of a single-hook trigger, hammer and disconnector), which knocked out three more parts for me. For the final part, I picked up a TAPCO stainless steel gas piston.

For the project itself, I knew exactly whom I should contact—In Range's Troy Sellars. When I first got into having parts kits custom built into working rifles, I asked around with several of my compatriots in the AK community regarding a skilled builder. Sellars' name came up as a great source for quality work. Over the years, Sellars has built Romanian, East German, Polish and Bulgarian guns for me, and each of the builds has been stellar. So, I ensured that all of the necessary parts were sent to In Range and waited for Troy Sellars to work his magic.

A few weeks later, a complete and functioning semi-automatic M70 B1 arrived at my local gun shop. The rifle exhibited the quality workmanship I have come to expect from Sellars, with it sporting an attractive satin black moly coating over a Parkerized finish. Sellars also informed me that the stock set was a little rough, so he had Brent Graham freshen up the wood and Darrel Gross coat it. The result was a satin-finished, attractive stock set that matched the rifle beautifully. While inspecting the rifle I noted that the original parts kit not only featured matching

Yugoslav NE44 Helmet

An interesting and affordable collectible from the Cold War era. ■ By Peter Suci



In the 1950s the Yugoslav Army adopted a helmet known today as the NE44, a helmet designed at the end of World War II. It bears a slight resemblance to the German-style helmet but featured a simple liner that was likely based on the Riddell pattern used in the American M1 helmet.

The NE44 was first produced beginning in 1952 but was slightly modified and reissued as the Model 59 (M-59). This has led to some confusion as the helmet pattern is now known interchangeably as the NE44 as well as the M-59. Throughout its use, the helmet was produced by the former Serbian arsenal in the city Kragujevac.

A rare variation of the NE44 was produced for paratroopers. This appears to be a cut-down version with a padded liner and three-point chinstrap. It was likely only produced briefly before the introduction of

the PC99 training helmet, which was made of fiberglass and as such offered limited ballistic protection.

Throughout Tito's rule, the NE44, which was issued with light olive green paint, typically featured a Communist red star on the front, but during the Yugoslav Wars the helmets were used by various factions and included a variety of insignias—which were often little more than printed stickers placed over the star.

For collectors, the NE44 is a rather common helmet, as are the variations of camouflage covers, but examples of the helmet with camouflage paint and different national insignias are far rarer—and accordingly have become heavily faked. Among the rarest of accessories for the NE44 is a Serbian-produced sniper hood. Despite the fact that it may be underappreciated today, the NE44 certainly is a helmet with a rich history in both peace and war.



For More Information

APEX GUN PARTS

apexgunparts.com; 719-481-2050

IN RANGE, LLC

inrangec2.com; 865-932-6509

NODAK SPUD

nodakspud.com; 952-942-1909

TAPCO

tapco.com; 800-554-1445

numbers, but also that the trunnion was marked as being produced in 1986.

Thanks to Apex Gun Parts, In Range, NoDak Spud and TAPCO, I have been able to add an attractive and interesting AK variant to my collection. If you are looking to locate some rare and interesting parts kits that are available on the market, I recommend you keep an eye out at Apex Gun Parts' website to see what they may have dug up. You may just find your next treasure there! ■



BRITAIN'S BATTLE RIFLE

**The Lee-Enfield No. 4 Mk I*,
England's .303 workhorse for
World War II and beyond!**

By Paul Scarlata



The Lee-Enfield No. 4 Mark I* was the primary rifle of the British and Canadian armed forces during WWII, and it served well into the 1950s. The rifle's two-piece stock and 10-round magazine are two of its most distinctive features.

British “Enfield” rifles are some of the most iconic small arms in the world. Having served around the world, they are the symbol of British power. The No. 1 Mark III Lee-Enfield rifle is, without a doubt, one of the most widely recognized of these. Its reputation for ruggedness and reliability are legendary, while its smoothly operating bolt and 10-round, charger-loaded magazine gave the British “Tommy” a significant firepower advantage over his adversaries at the turn of the 20th century.

Only two complaints worth heeding had arisen about the No. 1 during World War I: the rear sight and the thin



barrel. Experience with the American-made P14 Enfield rifle had shown that an aperture rear sight would be more practical and easier to use while making the barrel heavier, and modifying the stock to allow the barrel to be free-floating would improve accuracy.

ARSENAL UPGRADE

Work on a new rifle began at the Enfield arsenal in 1922, and by 1924 approximately 20,000 No. 1 rifles had been modified for troop trials. These experimental No. 1 Mk V rifles had the same general appearance as the Mk III except for a receiver-mounted aperture rear sight, which was adjustable from 200 to 1,400 yards, and an additional, fitted barrel band.

Further development was deemed necessary, and between 1929 and 1935 another rifle, the No. 1 Mk VI, was produced for extended field trials. The

receiver was completely redesigned to ease production, but at the same time a better grade of steel was utilized to increase its strength. While the No. 3's receiver had a nicely rounded profile, that of the Mk VI was all flat surfaces and right angles. The bolt and magazine were modified so that they were not interchangeable with those of the No. 1; instead, a new bolt catch was used and the charger guides were integral with the receiver. That 19th century anachronism, the magazine cutoff, was discarded and a number of stamped parts replaced those previously forged.

In November of 1939, the improved Rifle No. 4 Mk I officially replaced the long-serving No. 1 as the standard rifle of the British Army. The No. 4's most distinctive feature, apart from the traditional Lee-Enfield two-piece stock, was a short length of barrel, with front sight guards and lugs for a socket bayonet that was left exposed by a shorter forearm. Despite its heavier barrel, the new rifle was 4 ounces lighter than the No. 1 and was not only faster and cheaper to produce, but displayed superior handling characteristics and improved accuracy in the field.

The No. 4 rifle fired the standard .303 Mark VII cartridge. This had been adopted in 1910 and consisted of a rimmed, bottle-necked case 56mm long loaded with a 174-grain FMJ spitzer bullet with a muzzle velocity of 2,440 feet per second (fps).

The outbreak of World War II prevented full reequipping of the British Army with the No. 4 rifle, and most units continued to use the No. 1 rifle. Production of the No. 4 was undertaken at RSAF Enfield, Royal Ordnance Factories (ROF) at Fazakerley and Maltby and Birmingham Small Arms (BSA). As

This photo shows a Canadian soldier in World War II standing at the ready with an early production Lee-Enfield No. 4 Mark I bolt-action rifle. Also note the early-style bayonet with its distinctive cruciform spike blade.

BRITAIN'S BATTLE RIFLE

demand outstripped production facilities in the UK, both the Long Branch Arsenal in Ontario, Canada, and the Savage Arms Company in Massachusetts began production of No. 4 rifles for the Canadian and British armies.

SIMPLIFIED DESIGN

Changes began appearing in the No. 4 almost immediately as the different manufacturers attempted to make the rifle easier to produce. More and more stamped metal parts were used, a simple L-shaped flip-up rear sight with apertures for 300 and 600 yards was adopted and barrels were made with two-groove (instead of four-groove) rifling.

Instead of a blued finish, the rifles were Parkerized or used a baked-on enamel finish. Walnut stocks were replaced with ones made from beech and birch. These modifications first appeared on Canadian and U.S.-made

rifles, leading to them being designated the "Rifle No. 4 Mk I*."

The bayonet was simplified with the cruciform spike being replaced by the Mk. II, Mk II* and Mk III bayonets, which were simply sharpened rods. These were unpopular as they were not capable of performing the bayonet's

Specifications:

LEE-ENFIELD NO. 4 Mk I*

CALIBER:	.303 Mark VII
BARREL:	25 inches
OA LENGTH:	44.4 inches
WEIGHT:	8.7 pounds (empty)
STOCK:	Wood
SIGHTS:	Front blade, adjustable rear
ACTION:	Bolt
FINISH:	Blued or Parkerized
CAPACITY:	10

most important task during a deployment—opening ration tins.

Besides the original Mk. I rear sight, which was machined from steel and had a fine adjustment knob and the simple L-shaped Mk III sight, No. 4 rifles can be found with Mk III, Mk IV, C Mk II, C Mk III and C Mk IV sights. While similar to the Mk. I sight they were made from stamped steel and elevation adjustment was by means of a simple spring catch. No. 4 rifles were first issued to British troops in the Spring of 1942 and they proved even better battle rifles than had the No. 1 Mark III, which was no small feat given the earlier rifle's well deserved reputation.

During the war, sniper rifles were assembled by BSA and the firm Holland & Holland from No. 4 rifles selected for their accuracy; each was fitted with a No. 32 Mk I telescopic sight and a cheekpiece stock. Two versions of the rifle were assembled: the No. 4 Mk I (T) and No. 4 Mk I* (T).

By 1943 production of No. 1 rifles had ended, except in Australia and India, whose armies declined to accept the No. 4 as they felt the cost of retooling their respective production facilities would be prohibitive. Both nations continued to produce and issue the No. 1 throughout the war years and in some cases well into the 1970s.

By 1944 most British troops had been rearmed with the No. 4 rifle, and the No. 1s were withdrawn from service and relegated to war reserve status. Besides England, the No. 4 rifle was the primary rifle of the Canadian Army, and they were supplied to the Free French, Greek, Dutch, Belgian, Polish, Czech and Norwegian units fighting alongside the British Army. Savage also supplied about 40,000 No. 4 rifles to the nationalist Chinese government. By 1945 over 3.5 million No. 4 rifles had been produced, with BSA and Savage accounting for almost 80 percent of the total.

GOING GLOBAL

After the war, the British Army rebuilt many No. 4 rifles with Mk I rear sights and new stocks. In 1947 Enfield developed a new trigger unit for the No. 4 that pivoted on the underside of



Integral charger guides on the No. 4's receiver made it easy to rapidly load the 10-round magazine with stripper clips. The rifle's bolt handle was located immediately above the trigger for rapid manipulation.

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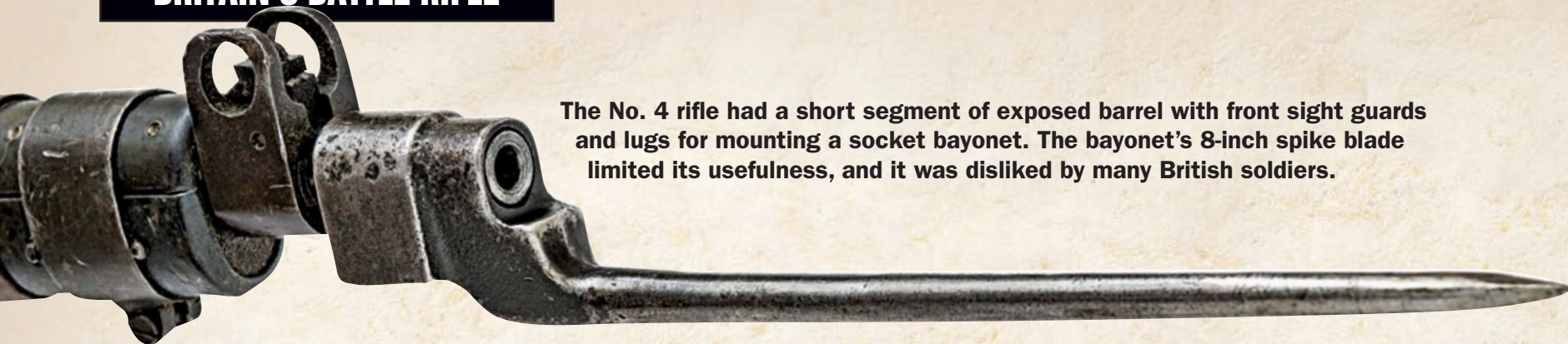
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The No. 4 rifle had a short segment of exposed barrel with front sight guards and lugs for mounting a socket bayonet. The bayonet's 8-inch spike blade limited its usefulness, and it was disliked by many British soldiers.

the receiver, instead of the triggerguard, and required that modified rifles have a new forearm installed. Thousands of No. 4 Mk I* rifles were updated with the new trigger, while new purpose-built rifles, designated the No. 4 Mk II, were assembled at the ROF. Mk II rifles were generally issued with the No. 9 Mk. I bayonet, which featured a much more practical 8-inch, Bowie-type blade.

The improved rifle, No. 4 Mk II, remained the standard British service rifle into the late 1950s, when it was replaced by the 7.62mm L1A1 (FN FAL) semi-auto rifle. British-supplied No. 4 rifles saw service with government forces during the bloody Greek civil war, and it was the standard rifle of the British and Canadian contingents serving with UN forces during the Korean conflict. It also saw wide use by both Israel and its Arab adversaries during fighting that characterized the founding of the Jewish state.

Many of these rifles were used by the French Army during their unsuccessful campaigns against nationalist forces in Southeast Asia, the Middle East and North Africa. They were widely used by both Dutch forces and Indonesian nationalist guerillas during the fighting in the Dutch East Indies. Until it was replaced by Soviet weaponry in the 1960s and 1970s, No. 4 rifles were used by the armies of Egypt, Syria, Jordan, Iraq and Pakistan. They showed up in all of the conflicts that raged across the Middle East, North Africa, sub-Saharan Africa, the Indian



The No. 4's rear sight had a large aperture sight and a fold-up leaf adjustable from 200 to 1,400 yards.

• • •

subcontinent and Southeast Asia and are still seen today in the hands of guerilla fighters in all these regions.

It should be noted that until 2015 the No. 4 was the standard-issue rifle of the Canadian Rangers. Composed mostly of Inuit volunteers, they are a sub-component of the Canadian Forces reserve and provide a military presence in Canada's sparsely settled northern, coastal and isolated areas.

ON THE RANGE

For this article I test fired a No. 4 Mk II rifle from my personal collection that was made at the ROF Fazakerley

in 1955. It is in like new, unissued condition with a mirror-bright bore, although the trigger pull was a bit on the heavy side.

Test firing was performed from a Caldwell Lead Sled on my club's 100 yards with Remington/UMC and Serbian-made PPU .303 British ammunition, both of which approximated the ballistics of the Mk VII cartridge. Folding up the rear sight, I sent the aperture on 200 yards and proceeded to fire for score. The heavy trigger required a bit of nursing along, but once I had the measure of it, I proceeded to produce a half-dozen five-shot groups in the 2.5- to 3.75-inch range, printing dead-on to point of aim.

After I was done with the accuracy testing, I scrounged a dozen drink cans from the range dumpster and placed them on the 50-yard backstop. I then ran the No. 4 through a series of off-hand, rapid-fire drills. The bolt was fast, smooth and positive in operation—as Lee-Enfields have been known for since the 1890s—and reloading with five-round chargers proved quick and easy, allowing me to maintain an impressive rate of fire and make the cans dance to my tune at the range.

After policing up the punctured cans and depositing them in the dumpster, I paused and thought about the Lee-Enfield. This rifle of rifles served king, queen and country for seven decades and its place in the history of the British Empire borders on iconic. Every time I see one, I am reminded of that stereotypical British sergeant-major we have seen portrayed so many times on the screen. Tough, rugged and maybe just a bit rough around the edges—but very good at what he does. Both he and Lee-Enfield got their reputations the old-fashioned way. They earned them! ■

Performance

LEE-ENFIELD NO. 4 Mk I*

LOAD	VELOCITY	ACCURACY
PPU 174 FMJ	2,411	3.50
Remington UMC 174 FMJ	2,407	2.90

Bullet weight measured in grains, velocity in fps by chronograph and accuracy in inches for three 5-shot groups at 100 yards.



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Members of *La Legion Extranjera* (the Spanish Foreign Legion) landing at the colony of Ifni. The two officers in the front of the landing craft are wearing holstered *Modelo B* pistols.

★ SPAIN'S ★ SUPER STAR ★



With 1911-style looks and handling, the 9mm **STAR MODELO B SUPER** earned its rugged reputation with generations of fighters!

By Paul Scarlata

PHOTOS BY STEVE WOODS

The mountainous region around the city of Eibar in north-eastern Spain possesses an abundance of iron, coal and water power, which, when combined with the industriousness of the region's Basque people, led to the development of the Iberian Peninsula's greatest arms-making center.

One of these was a family-owned firm with the name of Bonifacio Echeverria, S.A.

Established by José Cruz Echeverria in the 19th century, his sons Julián and Bonifacio took control of the firm in 1905 to enter the burgeoning market for the new breed of semi-auto pistols. The firm's first product, the *Pistola No. 1* (aka *Modelo 1905*), was a simplified version of the Mannlicher M.1900 chambered for the (then) new 6.35mm Browning (.25 ACP) cartridge. The *Pistola No. 2 Modelos 1906 and 1908* were similar, while the *Modelos 1910 and 1914* were chambered for the 7.65mm Browning (.32 ACP).





The *Star Modelo B Super* was the first Spanish service pistol chambered for the 9mm Parabellum cartridge. Its 1911 heritage is quite obvious.



1



2



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4

During World War I, the Echeverrias were one of the subcontractors producing a 7.65mm “Ruby” style pistol for Gabilondo y Urresti, which sold hundreds of thousands of them to the French and Italian armies. But Bonifacio also obtained a separate contract from the French for the *Pistola Modelo 1914*, or, as they renamed it, the *Pistola Modelo 1 Militar*. The *Modelo 1 Militar* was marked “Izarra” (Spanish for “Star”) or later “Star,” which led the French to designate it the “*Pistolet automatique*, type Star.”

In 1919 Julián left the firm to head a technical school for gunsmiths. Bonifacio obtained the trademark name “Star” for the firm and renamed it *Star Bonifacio Echeverria, S.A.* Realizing that the world market was oversupplied

1 Here you can see the *Modelo B*’s large external extractor and frame-mounted takedown lever, which allows the slide unit to be removed *en bloc*.

2 The *Modelo B*’s front sight is machined into the slide. Note that the sight normally came with a white-dot insert that is missing on this sample.

3 The rear sight has a square notch, and its white dot is also missing here. The thumb safety could be applied with the hammer cocked or forward.

4 The pistol was fitted with checkered plastic grip panels, and all of the controls are in positions similar to those on a typical *Model 1911*.

• • •

with Ruby-type pistols, Bonifacio set about designing and producing a pistol chambered for more powerful cartridges.

1911 INSPIRATION

The resulting *Pistola Militar Modelo 1920* was based upon the Browning-designed Colt 1911 pistol. While the breech-locking system was identical to the 1911, a number of dimensional and mechanical changes made it cheaper and faster to produce. These included the hammer strut; the firing pin stop; the mainspring housing being an integral part of the frame; a pivoting trigger (instead of sliding); the grips are attached directly to the frame without grip screw bushings; a slide-mounted

“Thanks to its 1911-like ergonomics, the Star handled and pointed very naturally, and of the 36 rounds we sent downrange only four wandered outside the X and 9 rings.”

hammer-block safety; and an external extractor. The pistol was adopted by Spain's *Guardia Civil* in 9mm Largo.

The 9mm Largo cartridge (a.k.a. 9mm Bergmann-Bayard) had been adopted by Spain in 1913 with the *Pistola Automatica Campo-Giro Modelo 1913*. It was also used in the improved *Modelo 1913-16* and the well-known *Pistola Automatica Modelo 1921*, better known as the *Astra Modelo 400*. It consisted of a straight-walled, rimless case 23mm in length whose 128 FMJ bullet was propelled to 1,145 fps. It would remain the standard-issue pistol cartridge of the Spanish Army and *Guardia Civil* until 1946, and pistols chambered for it continued in service well into the 1980s.

After using the *Modelo Militar 1920* for a short time, the *Guardia Civil* wanted changes made to the pistol. They requested that the safety be relocated to the frame and a grip safety added. In 1921 Echeverria made these changes to produce the *Pistola Modelo Militar 1921*. The *Guardia Civil* then changed its mind about the grip safety and Star's engineers responded by removing the offending device, which changed the model designation to *Modelo Militar*

Specifications:

Pistola Star Modelo B Super

CALIBER:	9mm Parabellum
BARREL:	5.25 inches
OA LENGTH:	8.03 inches
WEIGHT:	35.4 ounces (empty)
GRIPS:	Checkered wood or plastic
SIGHTS:	Front blade, rear notch
ACTION:	SA
FINISH:	Blued
CAPACITY:	9+1

1922. Production of the *Modelo Militar 1922* continued until 1931.

In 1924 Star began marketing its *Modelo A*, which was basically the *Modelo Militar 1922* with a new name, and production continued until 1983 with changes and improvements made along the way. The most apparent took place in 1931 when an arched backstrap was added to the grip frame. Outwardly, the *Modelo A* looks almost identical to the 1911 pistol without a grip safety.

The following year, Star began production of the *Modelo B*—which was little more than the *Modelo A* with a more ergonomic grip—in both 9mm

Largo and 9mm Parabellum, primarily for export. The year 1931 saw the introduction of the *Modelo P*, which was little more than an upsized *Modelo B* chambered for the .45 ACP cartridge. The British purchased numbers of *Modelo Ps* early in World War II for issue to their undercover operatives working in Europe.

There was also a *Modelo PD* that featured a selector switch for full-auto fire and was fitted with a wooden holster/shoulder stock and extended magazine. The *Modelo B* and *P* pistols sold widely in Latin America, and the Argentine-made Ballester-Molina .45-caliber pistol was based to a large degree on the *Modelo P* design.

REVOLUTIONARY HARDWARE

Because of the region's strong industrial base with its large numbers of (mostly poorly paid) workers, the labor movement and socialism became particularly strong in Eibar. In 1931, Eibar was the first city in Spain to proclaim the Second Spanish Republic, which led to the overthrow of the unpopular King Alfonso XIII. During the ensuing Spanish Civil War (1936 to 1939), the region supported the Republican (socialist/



Anyone experienced with a 1911-style pistol will have no trouble operating or shooting the 9mm Star *Modelo B Super*. This vintage model came from Aim Surplus.

SPAIN'S SUPER STAR

communist) side and was a major source of weaponry for the workers' militias fighting the Nationalist forces of General Francisco Franco. Large numbers of Star pistols, of all models, saw service.

In 1937 the Eibar region fell to Franco's forces and the entire production of the Star factory was supplied to Nationalists. By 1939 the city of Eibar was devastated and the arms industry was virtually destroyed. After the civil war, Star was one of only three manufacturers allowed to continue making handguns, and they avidly pursued the military and commercial markets in Spain and around the world.

During WWII, the Star factory produced numerous arms for export to countries engaged in the war, mostly Axis and other aligned countries. Smaller Star pistols were used by aircrews, and full-sized guns were employed by police, second-line units and certain specialist troops. Between 1942 and 1944, Nazi Germany purchased in excess of 25,000 *Modelo B* pistols, designating them the *Pistole Star Modell B (.08)* while 15,000 were sold to Germany's ally, Bulgaria.

After the war, an additional 9,500 *Modelo B* pistols were supplied to West Germany for issue to its *Landes Polizei* (State Police). Some will be found with "L.P.N." stamped on the grip frontstrap, which indicates they were used by the *Landes Polizei Niedersachsen* (Lower Saxony State Police).

Because of the U.N. arms embargo, the South African Defence Force (SADF) was unable to obtain weapons from its traditional sources in Great Britain and Belgium. But Generalissimo Franco's government apparently had no qualms about supplying arms to the South Africans, and the SADF adopted the *Modelo B*, which they used well into the 1990s. Israel also obtained a quantity of *Modelo Bs* for issue to its police but it is uncertain if they were purchased from Star or were surplus South African pistols.

NEW VARIANTS

In 1946 Star introduced the *Pistola Modelo B Super* in 9mm Parabellum.



ABOVE: The first successful Spanish service pistol was the *Astra Pistola Automatica Model 1921*.

BELOW: Star's first 1911-type pistol was the *Modelo 1920*. Note the slide-mounted safety and straight grip.

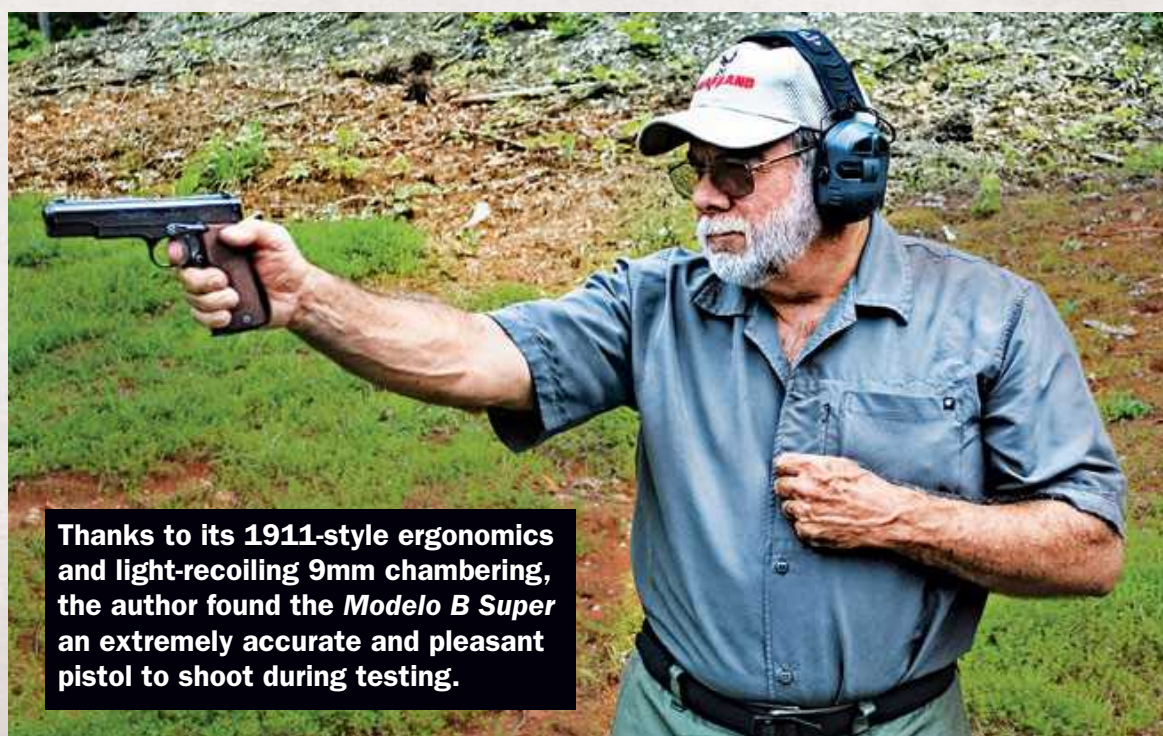
This design replaced the barrel link with a cam similar to that used on the FN Hi-Power pistol and had a quick takedown system that allowed the slide unit to be removed *en bloc*. The extractor was modified to act as a loaded-chamber indicator, and a magazine disconnect safety was also included in the design. Apparently Star produced the *Modelo B* and *Modelo B Super* pistols concurrently for some time. Of note is the fact that Star offered 9mm Largo replacement barrels for the *Modelo B Super* pistol. If you have any doubts, be sure to have a qualified gunsmith verify which cartridge your pistol is chambered for.

The *Modelo B Super* was the first 9mm Parabellum pistol to be taken into service with the Spanish armed forces. While it was the "standard" issue pistol

of the Spanish Army and *Guardia Civil*, it did not completely replace the *Astra Modelo 1921* until the early 1980s.

From the 1950s through 1975, the Spanish Army and *La Legion Extranjera* (the Spanish Foreign Legion) engaged in a series of campaigns against nationalist guerillas in her African colonies. The *Modelo B Super* (alongside many *Astra Modelo 1921s*) saw wide service during the fighting in Spanish Morocco, Ifni and the Spanish Sahara.

In 1972 the *Pistola Star Modelo BM*, a shortened and lightened version of the *Modelo B*, was adopted for issue to army officers and the *Guardia Civil* while others were sold to the SADF. Star also produced two versions with



Thanks to its 1911-style ergonomics and light-recoiling 9mm chambering, the author found the *Modelo B Super* an extremely accurate and pleasant pistol to shoot during testing.

Becky Scarlata Photo

lightweight alloy frames, the *Modelos BKM* and *BKS*. The latter was sold in the U.S. as the Starlite.

Star and the other major Spanish pistol maker, Astra, joined forces in the 1990s but the downturn in the world arms market led to both companies closing down in 1997.

SHOOTING STAR


To disassemble a Star pistol, once it's empty, rotate the takedown catch on the right side of the frame all the way forward and remove the slide off the front of the frame. Push the recoil spring guide rod forward slightly, pull it up and remove the recoil spring unit from the slide. Rotate the muzzle bushing to the left and remove and then pull the barrel out of the slide from the muzzle end. Reassemble in reverse order.

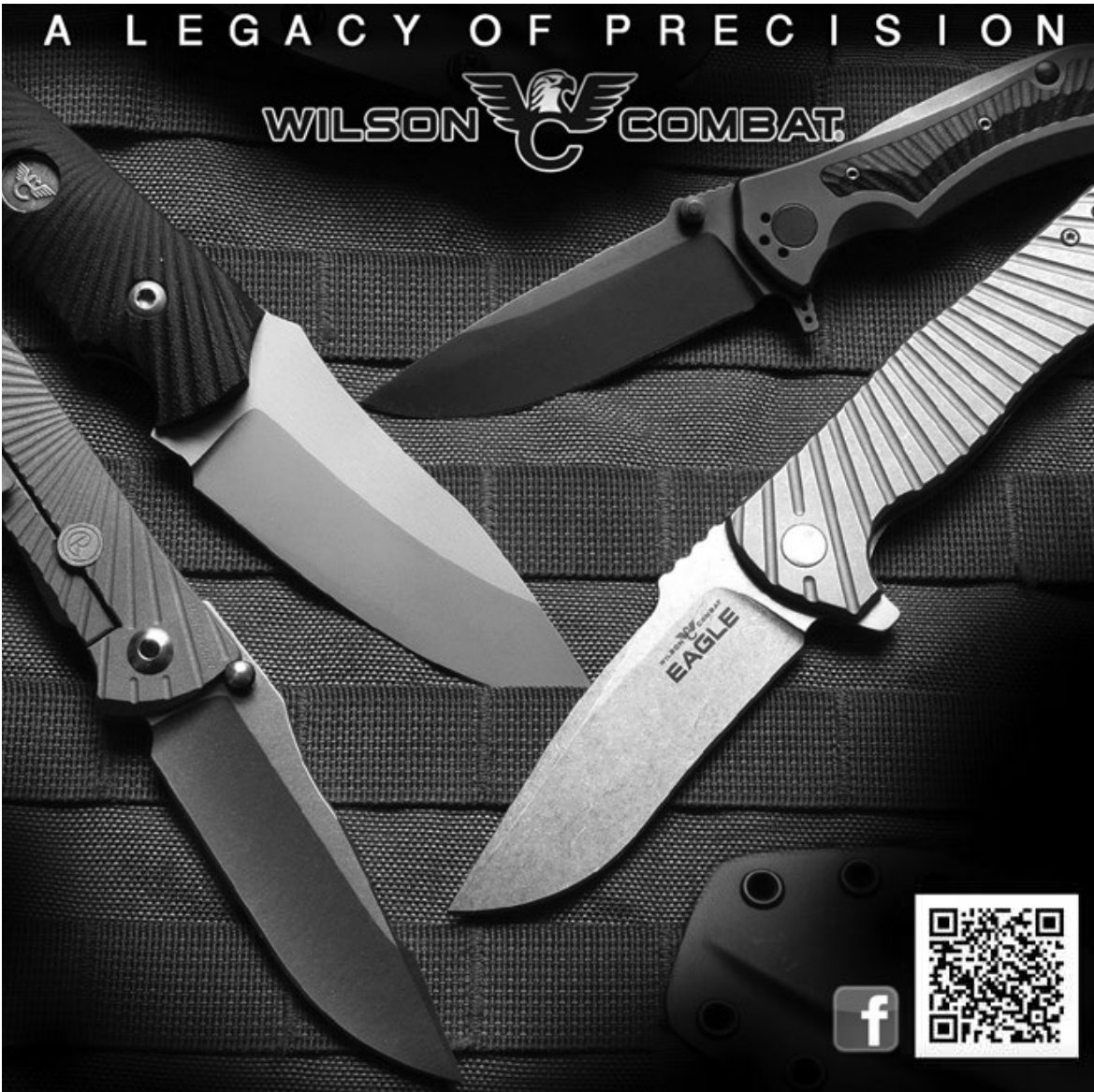
For this article, a sample *Modelo B Super* pistol was purchased from Aim Surplus. The one I received had a fair amount of handling and holster wear but mechanically it was in excellent condition with a clean bore and a better trigger than you'll find on most surplus pistols. While easy to acquire, I felt the sights were a bit low and were missing the white-dot inserts Star fitted to the sight for shooting in low light.

My wife Becky and I test-fired the *Modelo B Super* from an MTM K-Zone rest at 15 yards with Sig Sauer Elite Performance 9mm ammo loaded with 115-grain FMJ bullets, which produced a series of well-centered groups ranging from 1.5 to 2.5 inches in size.



We also ran some off-hand drills on a combat target at 7 yards, firing the pistol with supported and one-handed grips. Thanks to its 1911-like ergonomics, the Star handled and pointed very naturally, and of the 36 rounds we sent downrange only four wandered outside the X and 9 rings. Of the approximately 100 rounds we fired that afternoon, we experienced a total of one malfunction, a stovepipe jam that was easily cleared. I must say that I was impressed with how well this old warhorse performed and can easily understand why the Star *Modelo B* pistols were so popular. For more information, visit aimsurplus.com or call 888-748-5252. ■

A LEGACY OF PRECISION

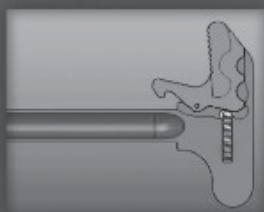
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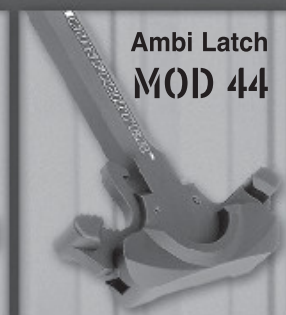
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THE GREASE GUN

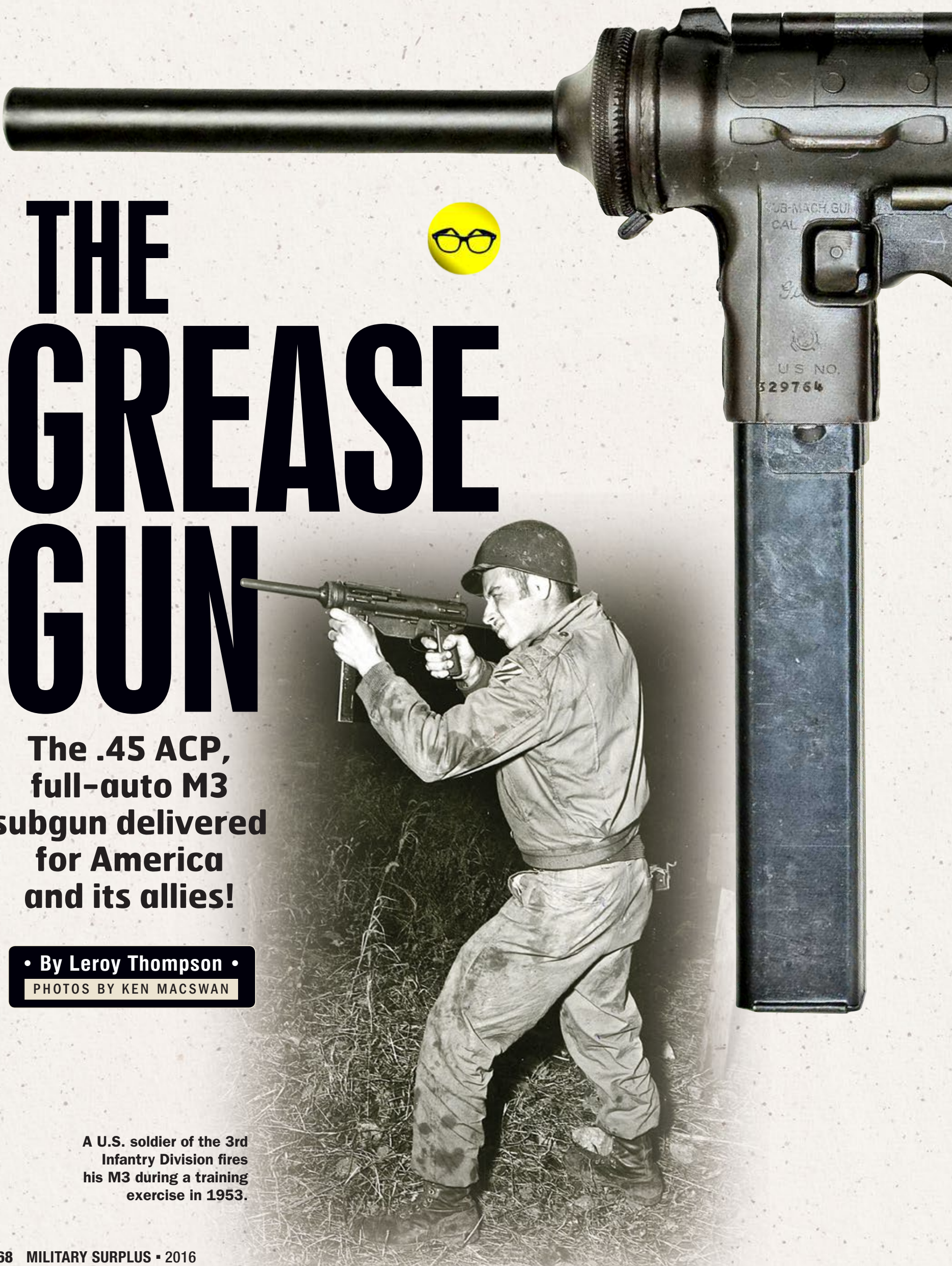


**The .45 ACP,
full-auto M3
subgun delivered
for America
and its allies!**

• By Leroy Thompson •

PHOTOS BY KEN MACSWAN

A U.S. soldier of the 3rd
Infantry Division fires
his M3 during a training
exercise in 1953.





The rudimentary M3 “Grease Gun” was widely used in Allied armored vehicles during World War II because it was compact enough to get into and out of a tank turret easily.

• • •

Compared to most U.S. infantry weapons of World War II, the M3 submachine gun is not especially well known. This is even more remarkable given that it is the longest-serving SMG in U.S. military history, having been used from 1942 to 1992.

The M3’s resemblance to the tool used to lubricate automobiles resulted in its nickname, the “Grease Gun.” Many of those who do recognize the M3 may know it more by that title than its official designation. The M3 has been portrayed onscreen a few times, including the film *The Dirty Dozen* and in HBO’s *Band of Brothers*.

A NEW DIRECTION

Development of the M3 began in 1941 when the U.S. Army Ordnance Board became interested in an inexpensive, mass-produced submachine gun akin to the British Sten Gun. This in itself was quite a turnaround as, unlike many European armies, the U.S. Army had never really been especially enamored with SMGs. At the time, the U.S. submachine gun was the Thompson, which had been adopted to a large extent because it was available and already in production at the start of the war.

The Thompson was effective but heavy and expensive. Based on a list of requirements submitted by the Army, specs were developed for an all-metal weapon, chambered for the .45 ACP cartridge, capable of either semi- or full-auto fire, having a low cyclic rate and capable of being inexpensively mass produced. The original specifications had offered .30 Carbine as an alternative to .45 ACP, but the pistol caliber was chosen. To save costs, the capability of firing on semi-auto was eliminated, so the M3 could only be fired on full-auto.

Working with engineers from the Inland Manufacturing Division of General Motors, the Ordnance Department developed what was designated the T-15. Specifications of October 8, 1942, included a stipulation that the T-15 could be easily altered to fire the 9mm round, thus allowing captured ammo to be used and M3s to be supplied to allies or Resistance fighters. Another stipulation was that the capability of firing semi-auto be eliminated to make production easier and less expensive. Because the M3 had such a low cyclic rate, it would be much easier to fire one or two shots through trigger control.

The version incorporating these changes was designated the T-20. Five prototypes of the T-20, along with five 9mm

conversion units, were built by General Motors for testing. In accuracy testing on a 6-by-6-foot target at 50 yards, the T-20 scored 97 hits out of 100. For comparison, a Thompson SMG used as a control scored 93. During a reliability test of 5,000 brass-cased .45 ACP rounds, there were only two failures to feed, both attributed to defective magazine followers. An additional test of 500 rounds of steel-cased .45 ACP had three failures to eject and one to feed. Additional reliability tests included those in mud and dust. The T-20 proved more reliable than other SMGs that were tested. Tests of the T-20 were also carried out by the U.S. Army Airborne Command, the Amphibious Warfare Board, the U.S. Army Infantry Board and the U.S. Armored Forces Board. All recommended its adoption.

An Ordnance Committee memo from December 23, 1942, recommended its adoption as “US Submachine Gun, Caliber .45, M3.” Its production was approved in January 1943, and production began in May 1943. An initial contract for 300,000 Grease Guns

THE GREASE GUN

was awarded to the Guide Lamp Division of General Motors because of this division's expertise in the use of stampings in production.

DEVIL'S IN THE DETAILS

Other than the barrel, the bolt and a few other smaller parts, the M3 was produced entirely of stampings at a cost of around \$18.36 per unit, plus \$2.58 for the bolt assembly, which was subcontracted. The cost of the M3 was about half that of the M1A1 Thompson, and the production time required was about half as well. Many of the production shortcuts used by the British in making the Sten Gun were used in making the M3. For example, as with the Sten, M3 barrels were cold swaged. By the end of 1943, Guide Lamp had produced 85,130 M3s, with production in 1944 rising to 343,372. A final 162,723 M3s were produced in 1945.

Problems arose in 1944 with issued M3s, including cocking handle assembly failures and fragile rear sights, among others. These problems were fixed in later M3 production.

In May 1944, the Tank Destroyer Board requested a fix to magazines being inadvertently released, resulting in a guard being added around the magazine release. To fix tankers damaging the bolt face and chamber by using the stock as a cleaning rod, a stop plate was added between the stock rods.

In April 1944, the Ordnance Department and Guide Lamp began work on simplifying the M3 even more. Not all suggested changes were implemented, but among those that were was the elimination of the cocking handle/crank. Instead, the bolt was designed to incorporate a recess, which allowed the finger to be used to pull back and cock the bolt. Among other changes was the incorporation of a loading tool into the buttstock, incorporating a longer ejection port and ejection port cover/safety flap, and strengthening the rear sight. On February 22, 1945, the new design was adopted as the "Submachine Gun, Caliber .45, M3A1." The M3A1 was slightly lighter than the M3 by a couple of ounces. Before the end of the war, only 15,469 M3A1's had been produced.

CALLED TO DUTY

The ejection port cover/safety flap is one of the more interesting cost-cutting features of the M3/M3A1. Rather than using a conventional selector or safety, the M3's safety consists of a stud on a hinged ejection port cover. When the bolt is forward, the cover may be closed over the bolt, with the stud engaging a recess in the bolt. This prevents the bolt from being jarred rearward, thus cocking the weapon on a loaded magazine. When the bolt is to the rear, the stud engages a notch atop the bolt, preventing the bolt from going forward. Since the M3/M3A1 fires from an open bolt, securing the bolt in position is very important for safety.

As troops got used to the M3, they found it easy to carry with good stop-

ping power. They also grew to appreciate the low cyclic rate, as it allowed greater control. Although it had initially been issued to paratroopers and Rangers on a limited evaluation basis, it did achieve wider use among members of the 17th Airborne Division during Operation Varsity. Tank crewmen and armored infantrymen were also among the early troops to receive the M3. MPs found the M3 a very useful weapon for guarding installations or controlling prisoners. Although intended as a replacement for the Thompson SMG, both continued to be used until the end of World War II, at which point most Thompsons were pulled from service.

A suppressed version of the M3 had been developed for the Office of Strategic Services (OSS). A barrel with



The M3's magazine release (left) was protected by a ridge to keep it from being hit inadvertently during combat. Users could depress the mag release and remove the mag with just one hand. The stock release (right) is just above the pistol grip.



The M3's hinged dust cover doubled as a safety, as the stud visible on the cover would prevent the bolt from moving. Also note the cocking handle on the right side.

“To save costs, the capability of firing on semi-auto was eliminated, so the M3 could only be fired on full-auto.”

The M3 featured a collapsible wire stock. While it was not especially comfortable for firing, it made the Grease Gun very easy to carry or stow in a vehicle.

• • •

an integral suppressor could be easily installed on the M3 by screwing off the standard barrel and screwing on the suppressed one. Since the .45 ACP round is subsonic, standard ammunition could be used, and the heavy 230-grain bullet retained substantial stopping power even when fired from a suppressed weapon. A total of 1,000 suppressed barrels were produced for the OSS contract. Suppressed M3s are notably heavier by more than a 1.5 pounds and are longer than the standard model M3.

During the Korean War, the principal U.S. SMG was the M3A1. Due to the cold weather, care had to be taken not to over-lubricate the M3A1, and troops found that cocking the bolt with their fingers was difficult.

MODERN COMBAT

In 1953, Ithaca Gun Company was given a contract to manufacture over 90,000 new M3 bolts to replace those that had become too worn for continued use. Later in the 1950s, Ithaca was given a contract for 70,000 new M3A1 SMGs to fill estimated future needs.

Specifications:

U.S. M3 SUBMACHINE GUN

CALIBER:	.45 ACP
BARREL:	8 inches
OA LENGTH:	22.8-29.8 inches
WEIGHT:	8.15 pounds (empty)
STOCK:	Collapsible
SIGHTS:	Front post, fixed rear peep
ACTION:	Full-auto, blowback
FINISH:	Parkerized
CAPACITY:	30+1

Production took place during 1955 to 1956, but only 33,227 Ithaca M3A1s were produced before the contract was cancelled. This additional production allowed the Thompson to be taken out of service in March 1957.

During the Vietnam War, the M3/M3A1 saw use with U.S. Special Forces, Vietnamese forces and Marine Recons among others. When Delta Force was formed in late 1977, it used the M3A1. Suppressed M3A1s also went along on the Iranian hostage-rescue mission.

After Vietnam, U.S. armored crews were still issued the M3 to carry in their tanks, and tankers in Europe facing the threat of a Warsaw Pact attack had M3s. Armored vehicles in the first Gulf War also carried M3s.

RANGE REPORT

I have fired the M3, M3A1 and suppressed versions. As with most skeleton stocks, that on the M3 is not especially comfortable, but

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The M3's steel stick magazine held 30 rounds and often required a loader due to stiff spring tension. On the updated M3A1 Grease Gun, a handy magazine loader was incorporated into the stock.

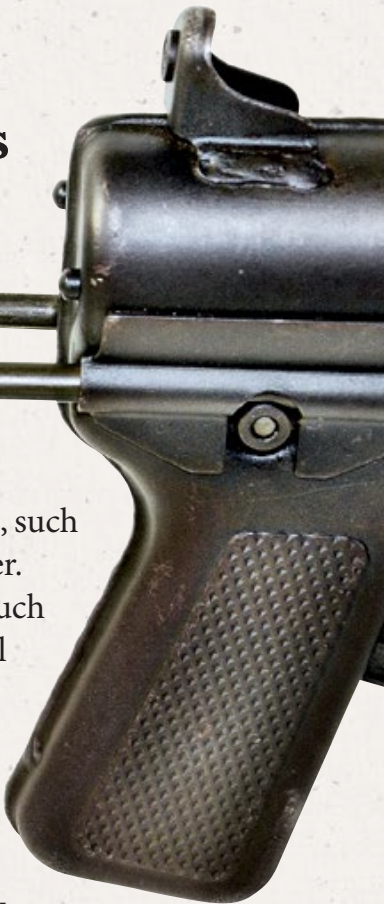
it is better than some, such as the AK underfolder. The stock design is such that it channels recoil straight back, which helps to control the SMG during full-auto fire. I like the low cyclic rate as it allows good accuracy in bursts without undue climb. It also allows me to fire single shots through trigger control fairly easily and two-shot bursts easily.

When firing, I place my support hand against the magazine well and pull the weapon back against my shoulder. The crank handle on the M3 allows better leverage for cocking the weapon but sticks out; using the finger on the M3A1 requires more effort but there is no protruding crank to catch on gear.

The M3's ejection port cover is what it is. It has to be flipped up before firing with the support hand and flipped down to render the weapon safe. I find the location of the magazine-release button allows me to hit the release with my support-side thumb while pulling the magazine free. The fixed sights are adequate out to 50 yards.

For a World War II Class III collector, the M3 is extremely interesting. It is also a very usable working SMG, especially since it packs the power of the .45 ACP. It was issued to paratroopers in WWII, and I wonder whether I would have traded in my M1A1 for the M3. If I had a choice, I probably would not have. The M1A1 offered longer range and better accuracy. However, for clearing cities during the drive on Germany, the close-range power of the M3's .45 ACP round might have convinced me.

All in all, I would say the M3/M3A1 Grease Gun has definitely proven its worth over the years! ■



EMPIRES OF THE SUN



The iconic sun helmet's evolution impacted militaries around the world!

By Peter Suci



Dubbed the “pith helmet,” it was one of the most iconic forms of headdress of the Victorian Age.

From its development in India to the Anglo-Boer War, it was very much a symbol of the British Empire, but it also was copied and adopted by virtually all the major powers of the world during the final quarter of the 19th century.

The sun helmet was worn by the imperialist nations during the so-called “scramble for Africa” and the European race for colonies across the world. This pattern was worn by men in red coats as they faced off against the Zulu in South Africa, the Italians in Ethiopia and the French in Indo-China. So too did American soldiers wear this helmet to protect themselves from the harsh sun during the summer months across America and to foreign lands in Cuba and the Philippines.

At the middle of 19th century the British Army, as well as the private military force of the British East India Company, wore uniforms that had changed little since before the days of the Napoleonic Wars. This included the use of a shako, the tall leather hat that was likely an offshoot of the gentleman’s top hat. The red coats and leather hats proved uncomfortable and thus impractical in the hot climate of India, which was on the brink of open rebellion by 1857.

By the outbreak of the Indian Mutiny (1857 to 1859) the British forces were using the 1855-pattern shako, but many soldiers began to acquire locally made helmets that had the basic shape of the cavalry helmets of the era. The conflict caused a great upheaval in accepted traditions, and this was likely the first time that specialized “tropical” uniforms were ever seriously considered. This included the use of khaki-colored uniforms as opposed to the bright red coats that the British had worn on campaign throughout the world. Khaki is actually the Persian word for “dust,” and it was fitting given the climate and conditions in the subcontinent.

EARLY STYLES

The first sun helmets were locally made with the main material being sholapith (or sola pith as it came to be

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OPPOSITE PAGE: The German Bortfeld Model 1902 “Tropenhelm” (left) was issued to naval landing parties and marine units. The French Model 1878 helmet (top left) for the Marine Infantry has a more uniform design. Both of these helmets were used extensively throughout World War I.

known), which is a dried, milky-white, spongy plant that could be pressed into various shapes. It had already been used to make hats, and soon was used for the early sun helmets. These first helmets included a wicker frame and were covered in white cloth. The earliest examples are known as the “air pipe” helmet because they featured a comb on the top—reminiscent of the cavalry helmets of the era—with a hole at the front to provide ventilation.

While the sun helmet made its mark and experienced its baptism of fire



Two U.S. soldiers circa 1900 wear khaki uniforms complete with Model 1887/89 sun helmets, which were not popular with American soldiers of the era.

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during the Indian Mutiny, it would be more than a decade before British troops began to be outfitted with the helmets. The first of these were ordered for European officers in the native regiments of the Indian Army, the branch of the British military that in essence replaced the Honourable East India Company following the mutiny.

However, it was still a few more years until the Foreign Service Helmet was universally adopted, becoming part of the dress regulations. There was a steady evolution of patterns throughout the 1870s with one notable distinction that set these apart from those that first appeared in India: The helmets were made from cork, not pith.

While still typically called “pith helmets,” these sun helmets were made

from what is a completely different material. The materials are in fact dissimilar in where they are grown, how they are harvested and even in the part of the plant where the materials come from. The only thing in common is that both are plant based.

The sola pith plants were common to India, but cork, which is prime subset of bark tissue, is actually removed from the outside of the cork oak tree. The majority of cork is produced in Portugal and Spain. Because of the close proximity to this source, British hatters that found themselves in the helmet business opted for cork.

CHANGES ABROAD

The outer appearance of the helmets also varied based on where the helmet was to be worn. Beginning in 1877, the helmets were authorized to have a puggaree, the cloth wrap around the outer headband of the helmet, for those stationed in Malta, India, Ceylon, Hong Kong, the Straits Settlements, the West Indies and Bermuda, St. Helena, Canada, West Africa and the Cape. The purpose of this cotton cloth wrapping was to help keep the helmet cool. Exactly how well this worked is left to debate, but based on period photos and surviving examples, it seems that considerable license was exercised by troops on overseas service, especially in South Africa, the Sudan and in Egypt. There are many surviving examples of helmets with and without puggarees. However, the 1900 Dress Regulations authorized the use of puggarees for all stations after Army Order 83 of 1896.

Depending on the location where the helmet was used, a helmet curtain may have been made available to provide shade to the neck. This would wrap around the helmet and was tied from the front. Because the helmet curtain was not permanently attached, few examples have survived, and these must be considered extremely rare.

While officially the “Foreign Service Helmet,” as opposed to the dress pattern “Home Service Helmet,” the pattern has become known to collectors as the “colonial pattern,” as it was used throughout the British colonies. This

sets it apart from the style of helmet that resembles the helmet that might evoke the notion of “safari.” For the purposes of clarity, this article addresses the use of various colonial-pattern helmets used by the British and other powers around the world.

BADGES & FITTINGS

One major misconception of the Foreign Service Helmet is that these all had the unit plates on the front. No doubt much of this is due to movies such as *Zulu* starring Michael Caine and Stanley Baker. In fact, most of the Foreign Service Helmets never were fitted with helmet plates or any form of badges while being used by the British Army, and helmet plates were rarely used on campaign and normally against regulations. Part of the confusion could be owed to the fact that other colonial units, including the Natal Mounted Police, Natal Carbineers, Durban Mounted Rifles and Transvaal Rangers, did wear plates, and more often spikes even in the field.

By the end of the 19th century, the Foreign Service Helmet was in use throughout the empire, and by most reports it was liked on average by the troops. Enlisted men and NCOs were supplied with a helmet, and often times a cover, while officers had to purchase their own helmets. As there were many hatters that undertook the task of producing the helmets, collectors today may encounter subtle (and even not so subtle) differences in design.

The primary manufacturers of these helmets included the same makers of the Home Service Helmet “blue cloth” dress helmets. These included Hawkes & Company of Piccadilly, London; Humphreys & Crook of Haymarket, London; J.B. Johnstone of Saville St. London, and Dawson Street, Dublin; Hamburger Rogers & Co., Covent Garden; H. Lehmann of Aldershot; and Samuel Gardner & Co. of Clifford Street, London. What is also notable is some examples today are found to be marked “sole manufacturer,” which clearly wasn’t the case.

The British relied on this colonial pattern helmet through the 1890s,

when the scarlet red coats were widely replaced with khaki. As the empire reached its zenith, the Foreign Service Helmet was gradually replaced with what became known as the Wolseley pattern. Despite the name, Sir Garnet Wolseley did not actually design it. However, it took on this name because it was the preferred style by this eminent Victorian soldier.

The helmet is notable in that it had a flatter and wider brim, and thus provided greater protection from the sun. It was first used in the Sudan campaign in 1896 but became popular with officers during the Boer War. However, due to making an easy target for Boer snipers, many British officers tended to revert to the older pattern. The Wolseley, too, would be replaced by other patterns, but it remained in use throughout World War II and is still used today by the British Royal Marines as a dress helmet.

SEEKING COVER

The British were not the only nation to see the benefits of providing a comfortable, lightweight helmet to its soldiers. While today it is easy to see that it offered little ballistic protection, the sun and elements were as much dangers to soldiers as enemy bullets. In addition, military style of the 19th century was still one of a fashion show and winners were often emulated. As the British Empire expanded, other nations looked with envy and adopted similar uniforms and notably helmets.

This colonial-pattern British 1877 Foreign Service Helmet was likely a private purchase for an officer, as the covering material is soft “doeskin.”

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Ironically, one of the first to copy the British pattern was the United States, which looked to outfit its small army in seasonably appropriate uniforms. In the mid-1870s, the United States quartermaster at the time, Montgomery C. Meigs, contacted the British government to obtain cloth-covered cork helmets. These were first approved by the U.S.

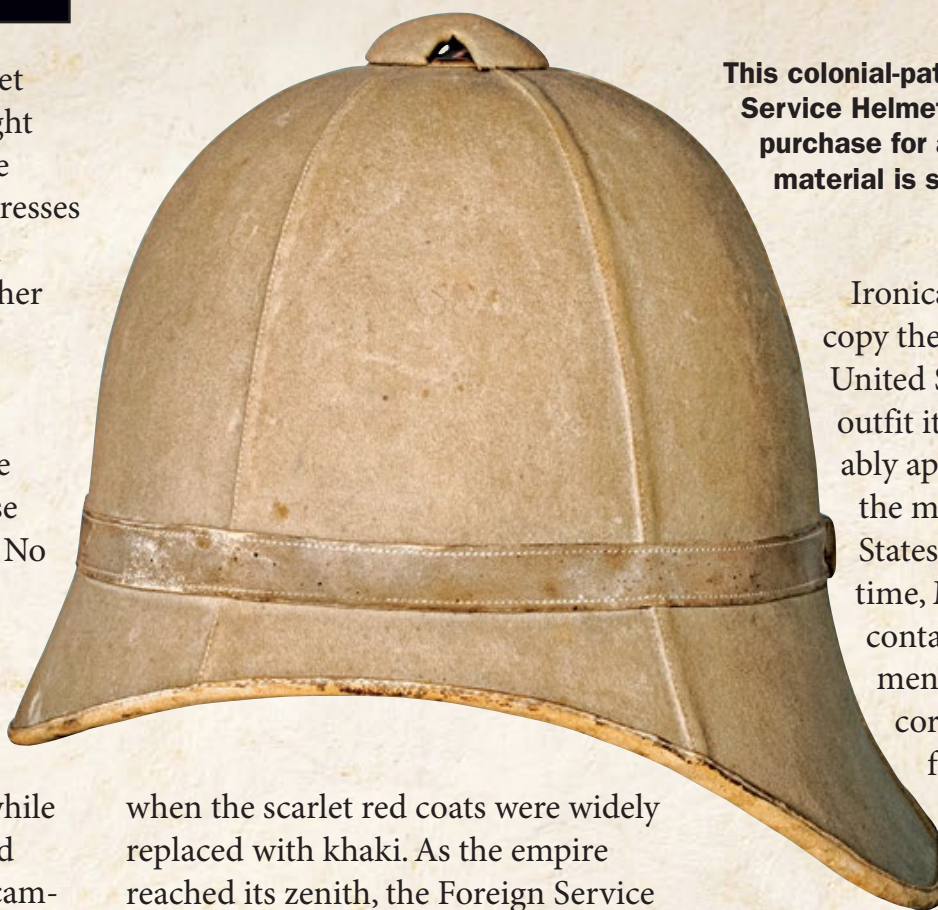
Army as the summer helmet for infantry and cavalry units, and

over the next three years were issued experimentally to soldiers of the 9th Cavalry serving in Texas and to troops enrolled at the artillery school in Fort Monroe, Virginia.

Despite misconceptions that the American helmets were imported, these were in fact produced domestically by Horstmann Brothers and Company of Philadelphia. The first style of helmets, which has come to be known as the Model 1880 summer helmet, had shorter front and rear bills than the British Foreign Service Helmet, and it was constructed of cork and covered in white cloth with four seams, as opposed to the six seams of its British cousin. Reportedly, only some 6,000 of these helmets were produced.

The helmet was modified in 1887 and featured a steeper front bill and a much larger rear nape. It was produced in white drill cloth and then updated in 1889 with khaki cloth. Both these patterns of helmets remained in use with the American military, including U.S. Army and Marine Corps units, through 1904. It saw service in the American Indian Wars and in the Spanish-American War. However, the helmet was as unsuccessful to the Americans as it had been a success to the British. The American soldiers hated the helmet, and most helmets were discarded quite quickly.

While many examples are encountered today that are described as “dress



helmets,” the summer cork helmet was never intended to be used with insignia or trimmings. It seemed that it was not uncommon for officers to transfer the eagle, oak leaf base, side buttons and cords from the black helmet. However, this practice was officially banned in 1887. In addition, because helmets and accoutrements were sold as surplus in the Bannerman catalogs for many years, it seems likely that many examples today were pieced together by collectors over the years. Trying to determine when a helmet was modified can be especially tricky today.

GOING GLOBAL

Also worth noting is that it wasn't just the Americans who adopted the British-style headdress. During the latter half of the 19th century, many European nations began to expand their overseas empires, and this included lands in tropical or otherwise warm climate regions. Whilst soldier comfort had never been considered a cause for concern, armies of the day did begin to create “summer” or “warm weather” uniforms, and these included the sun helmet.

It is beyond the scope of this article to list every example, but it is worth considering that in the final decades of the 19th century the major powers of Europe introduced their own sun helmets. Germany, France, Italy, Belgium and Portugal all used a tropical sun helmet, and in the case of Italy, Belgium and Portugal it seems that British-made helmets may have been used, at least until those armies were able to produce their own. Even the domestically produced helmets of these nations appear to closely rely on the British pattern.

The rival powers of France and Germany, who did stand briefly together along

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This Victorian-era British sun helmet, produced in the 1890s with a white chin chain, was once owned by Major C. Venables-Llewelyn of the Glamorgan Imperial Yeomanry.

with the other Europeans during the Boxer Rebellion, each authorized tropical sun helmets for their units serving in tropical climates. The first French-pattern sun helmet was the Model 1878, and it was likely based on the British colonial-pattern helmets that began to make an appearance earlier in the decade. These helmets featured a six-panel construction with a ventilator cap at the top. The helmets were covered in a light tan-colored canvas cloth, which was then colored white on the exterior.

This helmet was refined only a few short years later with the introduction of the Model 1886 helmet, which earned the nickname the “sugar loaf” helmet because of its steep front visor. Photographic evidence suggests these helmets were used at the same time. And perhaps because of its short lifespan before being replaced, this is why M78 helmets are far less common. Both helmets were used throughout the French colonial empire, and these helmets seemed well suited to the desert of North Africa to the jungles of Southeast Asia.

These helmets are usually encountered with either an anchor or a flaming bomb symbol. However, in the case of the former, it was not for the “navy” but rather the *Troupes de Marine*, the French Marine Infantry. This is because

in the era of the Third Republic it was the law that French conscripts in the army could not be forced to serve outside Europe, but at the same time there was the feeling that a volunteer force could be equated to an elite guard. This explains why many of these helmets are found with the anchor symbol of the Marine Infantry.

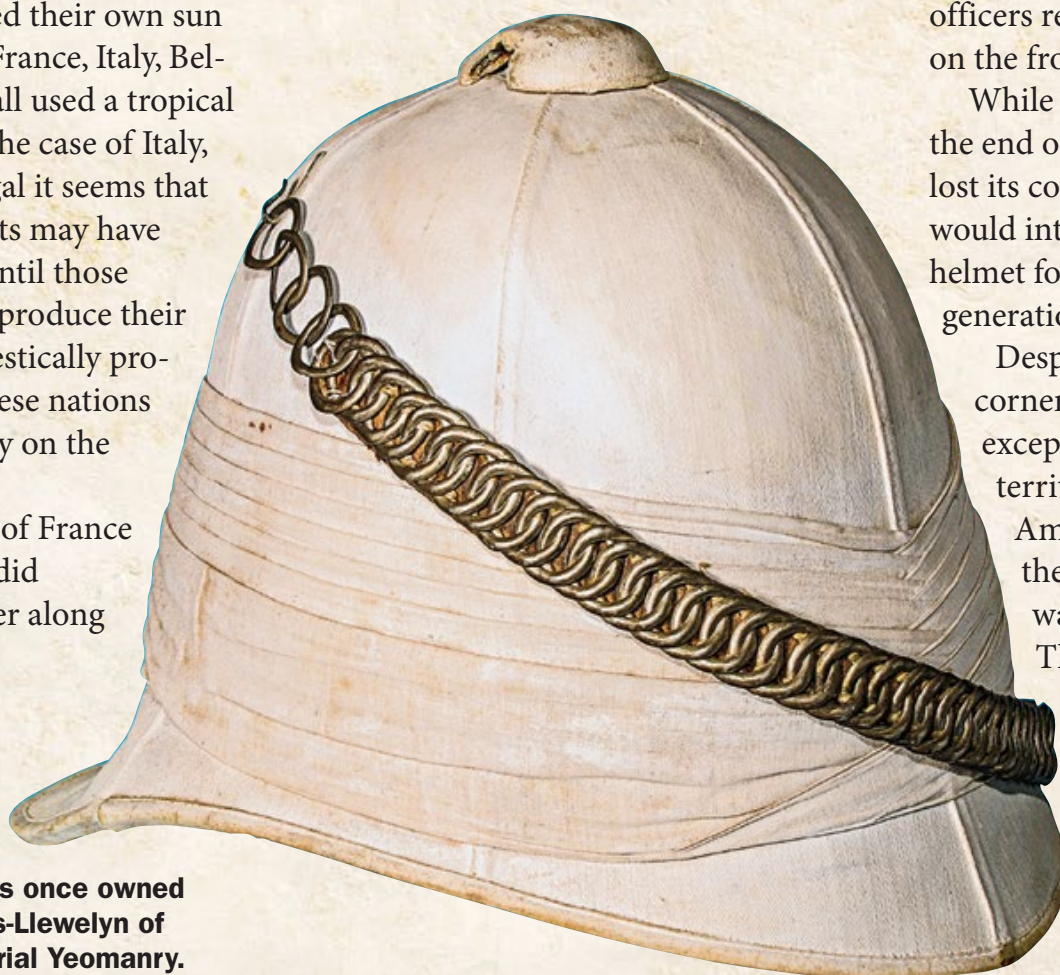
While the British were to replace the colonial-pattern helmet with the Wolseley by the end of the 19th century, the French-pattern helmets remained in use until long after World War I, only being replaced by a Wolseley-influenced helmet in the early 1930s.

France's rival, and Britain's future enemy, Germany also looked to a place in the sun and outfitted its army with a variety of colonial-style sun helmets. Several versions were used from around 1890 through the end of the World War I. These were used in the German African colonies, in the Pacific and in campaigns in Palestine. The first pattern helmet closely resembled the British Foreign Service Helmet, and it featured a *Helmewappen* (front plate) with the national colors cap cockade below the plate. The later Model 1900 tropical helmet used Pickelhaube-style cockades on the side of the helmet. With this model, it is believed that only officers retained the *Helmewappen* on the front.

While these helmets only lasted until the end of World War I, when Germany lost its colonial empire, the Germans would introduce the infamous pith helmet for use with its Afrika Korps a generation later.

Despite the fact that nearly every corner of the globe, with the exception of the former colonial territories of North and South America, fell under the power of the European “imperialists,” it wasn't an era that lasted long.

The rush for colonies began in earnest in the latter half of the 19th century and by the 1950s most of these lands were independent or soon would be. The colonial helmets remain a reminder of that imperial legacy. ■





IN JUNE OF 1941 THE NAZI *WEHRMACHT* invaded the USSR and found the Red Army ill prepared to stand up to *blitzkrieg* tactics. The Germans won a series of resounding victories and occupied some of the most important economic and strategic areas of the Soviet Union, inflicting heavy casualties on the Red Army. Despite these successes, the German offensive stalled on the outskirts of Moscow in early December and was pushed back by a Soviet counteroffensive. One of the weapons that helped the Red Army overcome the *Wehrmacht* was the *Pistolet-Pulemyot Shpagina 41*.


Adopted as the *Pistolet-Pulemyot Shpagina 41* (Shpagin Machine Pistol 41, or PPSH-41) over six million were produced in the USSR alone. Soviet soldiers bestowed the

nickname “Papasha” on it and the Red Army equipped entire units with them. With a rate of fire of 900 to 1,000 rounds per minute, they provided the Soviets with an overwhelming firepower advantage against their Nazi foes.

Large numbers of PPSH-41s were captured by the Finns and Germans and turned against their former owners. After the war, the USSR provided PPSH-41 submachine guns to its new “allies” and national liberation groups around the world and copies were produced in several Eastern-bloc countries.

FRONTLINE REPLICA

Because of rigid laws concerning the ownership of full-auto firearms, few of us will ever get to fire a genuine PPSH-41. But for those of you wishing to own a completely legal lookalike of this classic military weapon, you need



Soviet soldiers
armed with the
impressive PPSH-41
submachine gun.

Paul Scarlata Photo



RED ARMY RIMFIRE

Mitchell's Mausers PPSH-41/22 delivers
a .22 LR version of the classic PPSH-41!

By Paul Scarlata

PHOTOS BY STEVE WOODS

look no further than Mitchell's Mausers website to check out the PPSH-41/22.

Made by the Italian firm of Pietta, the .22-caliber PPSH-41/22 offers the appearance of the original PPSH-41 with a wooden, pistol grip stock, a full-length, ventilated barrel jacket and open sights. The bolt is housed in a tubular receiver made from stamped steel and reciprocates on dual guide rods, each with its own recoil spring. While it is blowback operated, it fires from a closed bolt.

The magazine catch is located in the front of the triggerguard and a sliding safety lever is behind the ejection port. Sights consist of a fixed blade up front while the rugged U-shaped notch rear sight is dovetailed into the receiver.

The Mitchell's Mausers PPSH-41/22 bears a close resemblance to the infamous Soviet PPSH-41 submachine gun of WWII fame. Note the 50-round drum and 30-round banana magazine, fixed rear sight, ventilated barrel jacket and wooden stock.

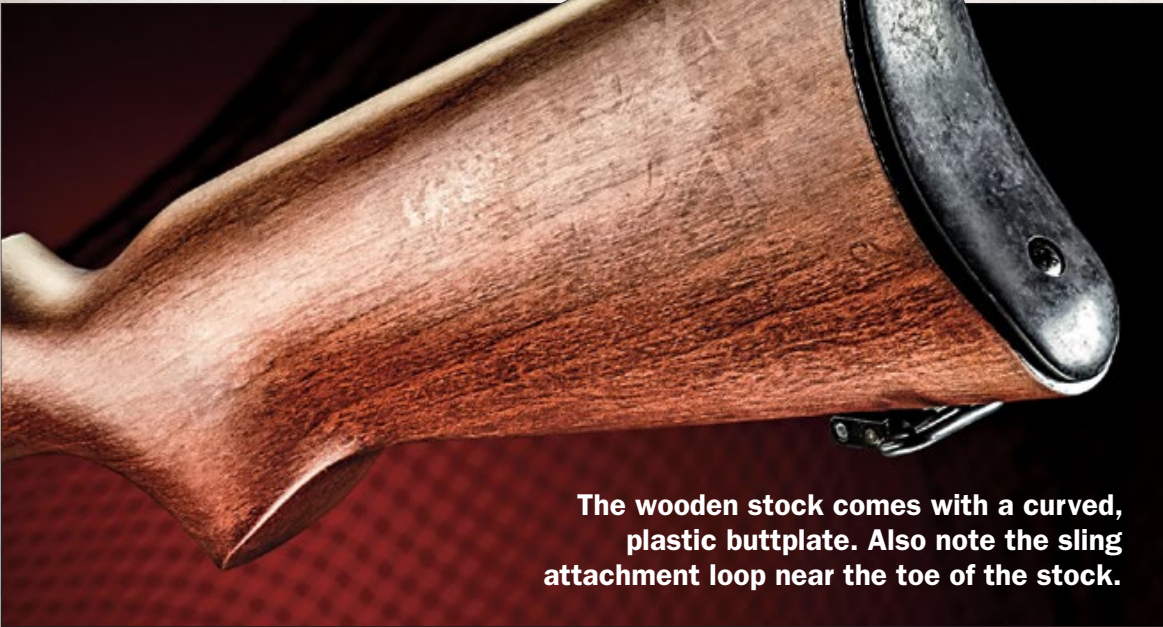
RIMFIRE ROUNDUP



The ejection port, cocking handle and safety are all located on the right side of the receiver while the magazine release is in front of the triggerguard.



Like the original Soviet submachine gun, the rimfire PPSH-41/22's most distinctive feature is the full-length, ventilated barrel jacket.



The wooden stock comes with a curved, plastic buttplate. Also note the sling attachment loop near the toe of the stock.

Specifications:

Mitchell's PPSH-41/22

CALIBER:	.22 LR
BARREL:	16.1 inches
OA LENGTH:	35.5 inches
WEIGHT:	4.4 pounds (empty)
STOCK:	Wood
SIGHTS:	Front blade, rear notch
ACTION:	Semi-auto
FINISH:	Matte blue
CAPACITY:	10+1, 30+1, 50+1
MSRP:	\$495

The PPSH-41/22 comes standard with a detachable, 10-round box magazine but the buyer can purchase 50-round drum or 30-round banana magazines. For those unlucky individuals living in localities with “high-capacity” magazine bans, Mitchell’s offers drum and banana magazines blocked for 10 rounds.

PERFECT PLINKER

The test gun was a solid-feeling little rifle, and the quality of fit, finish and assembly was beyond reproach. My wife Becky and I test-fired it for accuracy from a rest at 25 yards with four different types of .22 ammo, and we had no trouble producing well-centered groups, several of which measured exactly 1 inch. This proved that despite its “military” appearance, the PPSH-41/22 would be perfectly capable of taking small game animals and vermin such as rabbits, squirrels, groundhogs or foxes.

We then loaded the 50-round drum and 30-round banana magazines and began blasting away at drink cans on the 25-yard backstop, firing off the shoulder and “from the hip” with the gun braced at our side. Needless to say, our ratio of hits to shots fired was not all that impressive when firing from the waist. While we had a lot of fun, we were dismayed at how quickly our ammunition supply disappeared!

I hazard to say that you will find the PPSH-41/22, made for Mitchell by Pietta, one of the most fun guns you’ve shot in a long time. But that is any .22’s primary task in life. Just be sure to bring plenty of ammo! For more information, visit mauser.org or call 800-274-4124. ■

Performance

Mitchell's PPSH-41/22 .22 LR

LOAD	VELOCITY	ACCURACY
Federal American Eagle 38 HP	1,177	1.50
CCI 40 Standard Velocity	1,030	1.00
Remington 40 High Velocity	1,128	1.00
Winchester Power Point 40 HP	1,234	1.30

Bullet weight measured in grains, velocity in fps by chronograph and accuracy in inches for best five-shot groups at 25 yards.



BATTLEFIELD .22s

Rimfire replicas of history's greatest battle weapons!

■ By Dennis Adler

When it comes down to it, most avid gun collectors are also avid shooters. They enjoy spending some time sending lead downrange with their favorite firearm. But when it comes to valuable and collectible firearms, in some cases this could damage their value. Also, there are some military-pattern firearms (particularly select-fire models) that are either impossible to own or too prohibitively expensive to purchase. So what is the solution? Rimfires, of course!

Thanks to the efforts of several manufacturers on the market, today's military firearm enthusiast has access to a broad range of rimfire reproductions of some classic firearms. Read on to see a sampling of some of the most interesting out there today.

CHIAPPA 1911-22

The Chiappa .22 weighs in at 33.6 ounces, about 10 ounces lighter than a Government Model 1911. The gun features all-steel construction, a very light recoil spring and a fixed barrel that allows it to fire and operate easily with .22 ammo. The Chiappa's finish looks similar to the Parkerizing used on WWII military-style models. The gun

Military small arms like the Thompson are heavily restricted from civilian ownership. Rimfire siblings can be a great alternative.

Photo Courtesy
National WWII
Museum

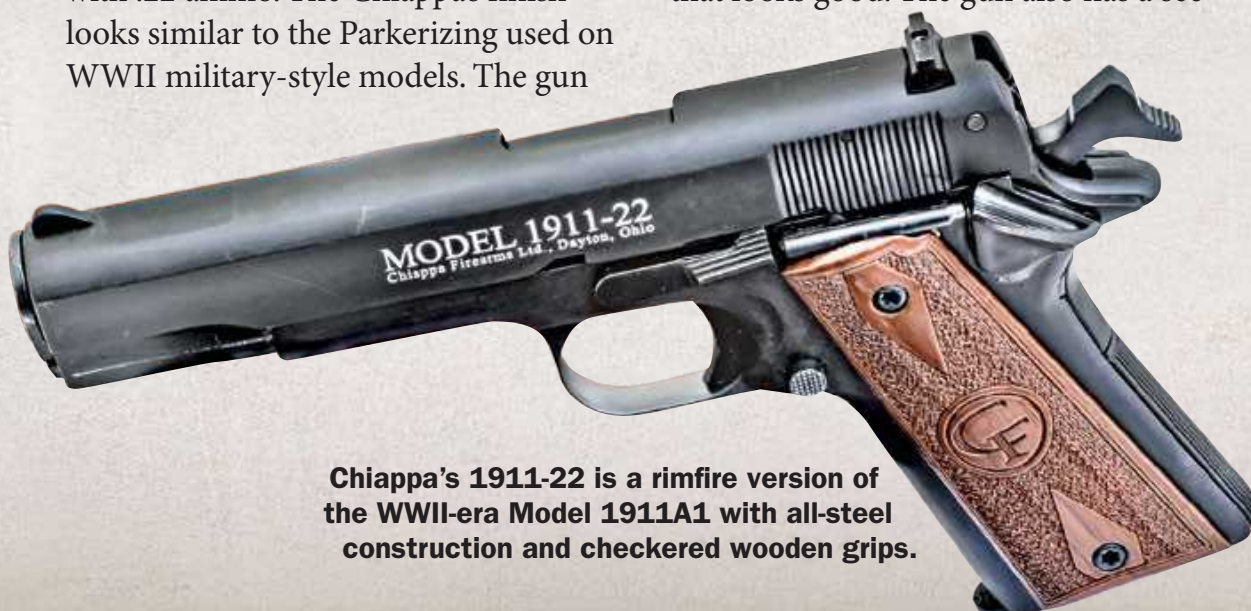


has the early flat mainspring housing design, the later-style long thumb safety and a variation of the c.1943 to 1945 Ithaca Type 2 hammer design. All in all, it's an interesting mix of 1911 designs that looks good. The gun also has a sec-

ondary safety mechanism on the right side of the slide, which uses a special tool to lock the action (hammer) for storage. The Chiappa has wood grips. (chiappafirearms.com)

AMERICAN TACTICAL STG44

One of the most historic rifles of WWII, the StG44 was nothing less than a groundbreaking design for the 1940s that some military historians have anointed as the first modern assault rifle, predating the AK-47 by three years. The *Sturmgewehr* 44 was a major development of its day and is a true collectible, and it is possible to own one chambered in .22 LR that is fastidiously accurate in styling and finish to the original.



Chiappa's 1911-22 is a rimfire version of the WWII-era Model 1911A1 with all-steel construction and checkered wooden grips.



The GSG Schmeisser .22, available from AT, faithfully reproduces the groundbreaking StG44 design considered the first modern assault rifle.

• • •

The German Sport Guns Schmeisser .22, which is imported by American Tactical (AT), features original styling in its hardwood pistol grip panels, shoulder stock, barrel configuration and sights. It is remarkably accurate in its fine details, weight (9.4 pounds) and operation when compared to its legendary WWII predecessor. The STG44 is available with 10- and 25-round magazines and even comes in an authentic-looking WWII-era style box. It is by far one of the most authentic WWII reproductions ever chambered for .22 LR. (americantactical.us; 800-290-0065)

STANDARD MANUFACTURING MODEL 22

The Standard Manufacturing Company's Model 1922 is about a 1/2-scale version of the famous WWII submachine gun designed by General John T. Thompson in 1918 and manu-

factured by Auto-Ordnance. While not operating in the same fashion as the original, the Standard Manufacturing model is a great deal of fun to shoot, although you do a lot of reloading because of its 10-round magazines (a 50-round drum magazine is forthcoming).

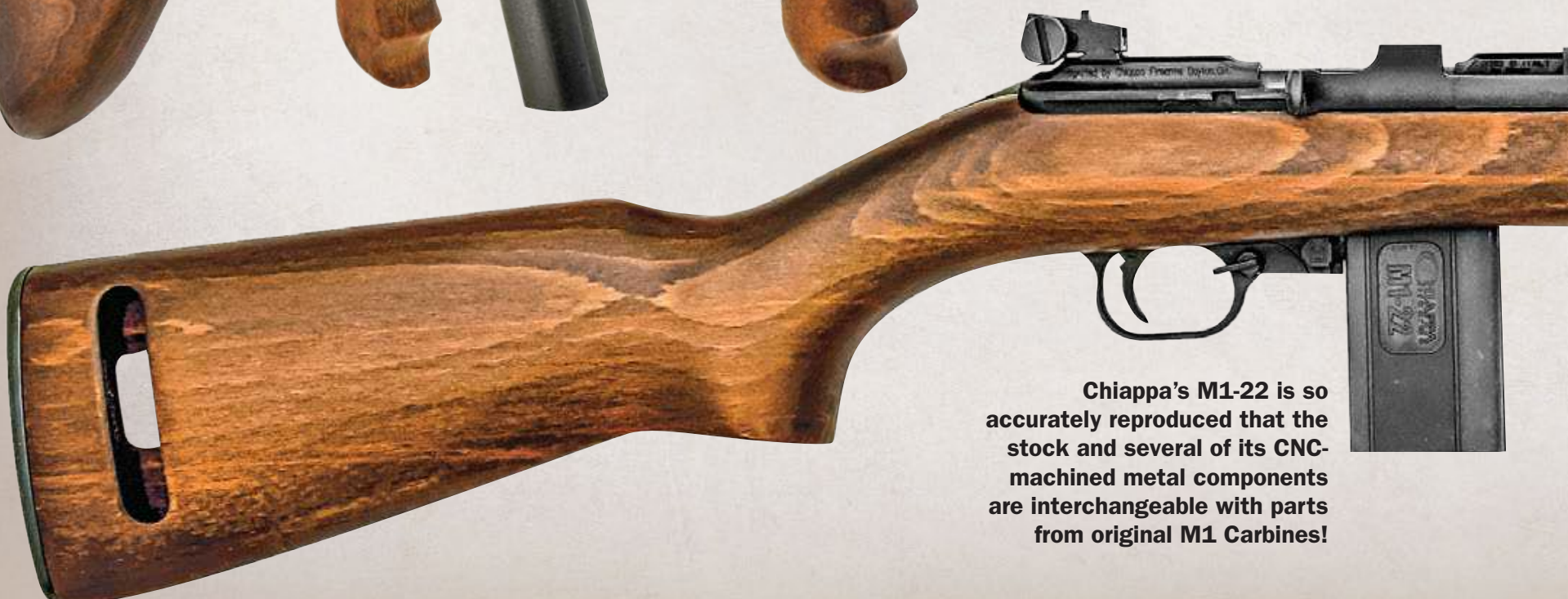
The original Thompson in .45 ACP went into service with U.S. Marines in 1921 and later with the U.S. Army. It was adopted in the mid-1920s by the U.S. Coast Guard and in 1928 by the U.S. Navy. Over the years, the Thomp-

son went through a number of design changes, and by WWII the M1 and M1A1 versions were in use throughout the U.S. military. The Standard Manufacturing guns are based on the classic "Tommy Gun" designs with a finned barrel, a muzzle brake, a foregrip and a top-mounted cocking handle.

This is the first time in history that a Thompson is available on a frame scaled correctly according to its caliber. The Standard Manufacturing Model 1922 is a high-quality gun with a beautifully grained walnut stock, a pistol grip and foregrip, and a hard black finish. The guns have a 16.4-inch



Standard Manufacturing's Model 22 is a scaled-down version of the famous WWII submachine gun designed by John Thompson.



Chiappa's M1-22 is so accurately reproduced that the stock and several of its CNC-machined metal components are interchangeable with parts from original M1 Carbines!

“One of the most historic rifles of WWII, the StG44 was nothing less than a groundbreaking design for the 1940s...”

barrel, an overall length of 34.5 inches and weigh 4.6 pounds with an empty 10-round magazine. (stdgun.com; 860-225-6581)

CHIAPPA M1-22

Aside from the M1 Garand, the M1 Carbine is perhaps the most recognizable firearm from World War II. Like the Garand, its use extended into the Cold War era. Short, squat and built to last, the M1 was chambered for 7.62x33mm, or .30 Carbine as it's commonly known. This “light gun,” as the military called it, filled the gap between the lesser power and accuracy of the .45 ACP M1911 sidearms and the incredibly heavy M1 Garand rifles.

One of the most interesting facts about the M1 is that although originally designed by Ed Browning (John M. Browning's brother), David Marshall Williams and several of Winchester's top engineers, the majority of M1s were produced by some of the most unlikely companies during WWII, including General Motors' Inland Division, the Rock-Ola jukebox manufacturing company, IBM and the Underwood typewriter company!

Although development began prior to the United States entering WWII, the final design was not approved by the Ordnance Department until

October 22, 1941, a short time before the December 7 attack on Pearl Harbor. The lightweight, easy-to-handle carbine became a mainstay of United States forces through World War II, the Korean War and the Vietnam War before the introduction of the M14 and then the M16. A total of over 6.5 million M1 carbines of various models were manufactured, making it the most produced small arm for the American military during World War II.

The Chiappa M1-22 maintains the very recognizable sling/oiler slot in the stock and a forward side-sling mount.

It is so accurate in its design that the darkly stained Italian hardwood stock, complete with a steel buttplate, and several of its CNC-machined metal components are actually interchangeable with original M1 Carbines. The Chiappa M1 uses a blowback system and standard features include an adjustable rear sight, which can be removed to allow access for guide rails to mount a scope. Both the 18-inch rifled barrel and the bolt are steel, while the triggerguard and magazine are a polymer composite. Polymer is also used for the rear aperture sight, the collar-type front



The Chiappa M1-22 uses a blowback operating system and comes with an adjustable rear sight that can be removed for optics.



“Aside from the M1 Garand, the M1 Carbine is perhaps the most recognizable firearm from World War II.”

“Kingston Armory’s .22 Kingston Garand...looks amazingly close to the original and comes equipped with National Match Garand sights.”

The Kingston Armory M14 is an accurate reproduction of the original built with high-quality American walnut for the stock and handguards.

GSG MP-40

sight post, the barrel band and the bayonet lug. The trigger is zinc alloy.

Cosmetically accurate in most details, the M1-22’s overall length is 35 inches, with a 13.125-inch length of pull. The rifle weighs 4.5 pounds unloaded and comes with two 10-round magazines. (chiappafirearms.com)

AMERICAN TACTICAL GSG MP-40

The German Sport Guns MP-40 accurately replicates the full-auto, 9x19mm Parabellum originals that were manufactured in Germany around the 1940s.

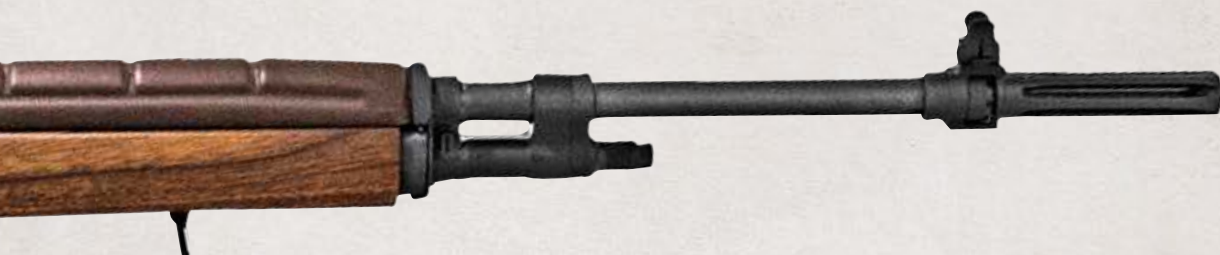
From watching World War II movies (old and new), one gets the impression that every German soldier was armed with an MP40. While a bit of an exaggeration, the MP40 submachine gun was one of the most prolific German arms in WWII, and it was instantly recognizable for its distinctive receiver design and folding metal stock.

The rimfire version from American Tactical is all metal and shares these same features as well as a folding buttplate, a 17.2-inch barrel with a faux suppressor, an adjustable rear sight, authentic Bakelite grips and a weight of 8.3 pounds. This is the most “classic” of all WWII German submachine gun designs, and even as a blowback action .22 semi-auto it stands out as one of the most authentic WWII reproductions on

GSG is currently the only company in the world licensed by Kalashnikov to produce a .22 LR model of the AK-47.



Kingston's M1 Garand uses a semi-auto action built in-house and bedded in a steel receiver for an authentic weight.



the market. The MP-40 is available with either a 24-round or 10-round magazine. (americantactical.us; 800-290-0065)

AMERICAN TACTICAL GSG AK-47

This is a classic Kalashnikov-style rifle chambered to fire the .22 LR cartridge. Manufactured by German Sport Guns and imported by American Tactical, the .22 LR Kalashnikov represents much more than a small-caliber copy of a famous military rifle. The GSG AK-47 is not only a well-made rifle, but it bears the Kalashnikov name. GSG is currently the only company in the world licensed by Kalashnikov to manufacture real, functioning firearms, and the company has not taken this opportunity lightly. The overall look, feel and operation of the GSG AK-47 are nearly identical. From the time you shoulder this rifle through the moment you pull the trigger, the feeling that it is an authentic AK-47 is conveyed. The 10-round magazine works like the original design's. (americantactical.us; 800-290-0065)

KINGSTON ARMORY GARAND & M14

One way to build an authentic-looking World War II rifle chambered in .22 LR is to use an established rimfire action as the foundation. The

best option for many includes restocking and reconfiguring a classic rifle around a more modern rimfire action. Kingston Armory builds its superb copies of the M1 Garand and M14 using steel, semi-automatic actions built completely in-house. These actions are bedded in receivers built in-house by Kingston Armory from steel, giving the guns the proper feel and weight approximate to the original U.S. military models.

Kingston Armory's .22 Kingston Garand in particular looks amazingly close to the original and comes equipped with National Match Garand sights. The .22 Kingston M14's sights are equally close in appearance to the originals. Adding further authenticity are the M14's trapdoor, steel buttplate and stock hardware, which are all faithful to the original design. The stocks and handguards are made from the finest American walnut for another touch of quality.

Additionally, Kingston Armory uses many military-specification Garand and M14 parts on these rimfire builds, including stock fittings, gas blocks and sling swivels, to keep the guns as original as possible. Both the Garand and M14 models use Kingston-made magazines and come with their own visually modified magazines to complete the exterior look. (845-292-3222; kingstonarmory.com) ■

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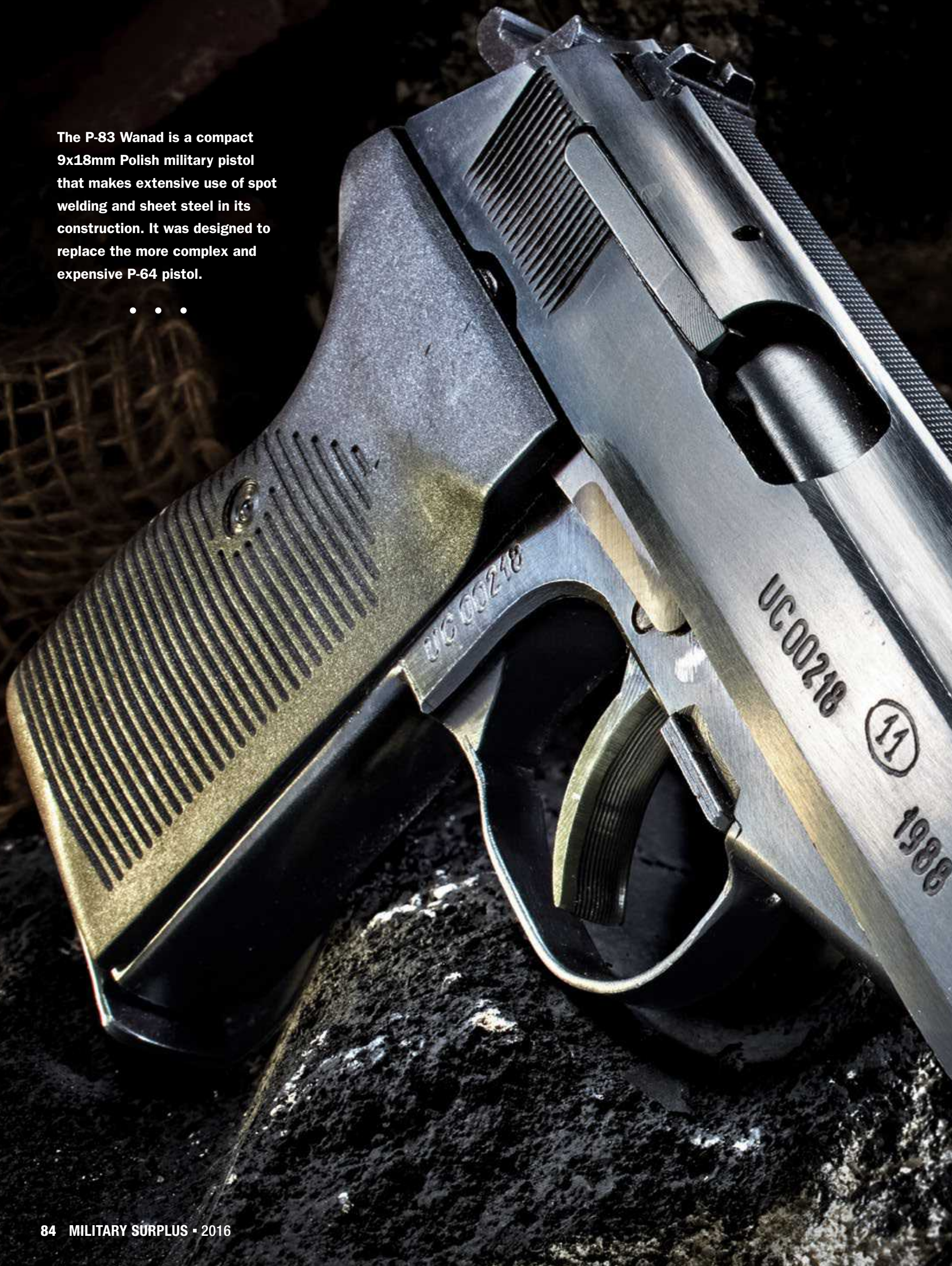
Western Games AZ - October
Talladega 600 AL - December
Oklahoma Games - April
Eastern Games NC - May
Nat. Matches OH - June/July
New England - TBD



For Details Visit the Web!
www.TheCMP.org

The P-83 Wanad is a compact 9x18mm Polish military pistol that makes extensive use of spot welding and sheet steel in its construction. It was designed to replace the more complex and expensive P-64 pistol.

• • •





Polish P-83 WANAD



**Rare 9x18mm
ComBloc sidearm
that combines
advanced design
with rugged
durability!**

Most students of historical firearms are aware of *Fabryka Broni Łucznik* (Radom) of Poland, a highly respected armsmaker with a storied history. Having established a stellar reputation for quality and innovation in the pre-World War II era, Radom's firearms are highly respected and sought-after collectibles for enthusiasts and shooters alike. Examples such as the classic wz.35 Vis 9mm pistol exhibit impressive quality and capable design, combining top-tier design with Poland's reputation for quality manufacturing.

However, the after-effects of WWII and the beginnings of the Cold War era (and its division of Europe between the spheres of influence of the East and West) would have profound effects upon Polish small arms design and development. The result was a sharp turn eastward in theory and design for Poland's small arms, with Kalashnikov-based rifles becoming the *de rigueur* for that nation's military.

In addition to the adoption and domestic production of 7.62x39mm AK-pattern rifles, Poland also shifted toward a more Soviet-centric focus in the design of its military handguns. The earliest result of this was the adoption of a variant of the Russian Tokarev TT-33 pistol in 7.62x25mm as the *Pistolet wojskowy wzor 1948*, or "Military pistol, model of 1948," manufactured by Radom to the tune of more than 200,000 samples. While the pistol was very similar in pattern and design to its Russian forebear, it still exhibited the classic Polish attention to fine detail and quality craftsmanship.

A NEW DIRECTION

As the decades of the Cold War ground on, Poland began to show an independent streak in its domestic weapons designs. When that nation looked to transition away from the Tokarev pistol and into a new 9x18mm sidearm similar to the Russian

By Michael O. Humphries

PHOTOS BY STEVE WOODS



ABOVE: The P-83 has a slide-mounted, hammer-drop safety. The red dot indicates the pistol is ready to fire. Note the loaded-chamber indicator pin above it.

ABOVE RIGHT: The P-83's sights are rudimentary, with the front blade integral to the slide. The top of the slide is also serrated to help reduce glare.

• • •



Makarov, the country instead developed its own homegrown design. What resulted was the new double-action/single-action (DA/SA) P-64, manufactured from 1966 to 1977.

In design and function, the P-64 is very similar to the classic Walther PPK. It is a compact, all-steel, DA/SA pistol that functions as a straight-blowback design where slide mass and recoil-spring strength work together to keep the action closed until chamber pressure drops to safe levels. The P-64 features a loaded-chamber indicator, clean machining as well as good-quality polishing and finishing on the metal. The single-column magazine of the pistol holds six rounds and features a generous finger-extension floorplate.

While a very successful design, the P-64 also proved to be very expensive to produce. Its complex angles and shape combined with the level of craftsmanship that Radom put into each sample made it prohibitively costly and forced the consideration of a replacement design.

As a result, in the 1970s Radom set about developing a replacement pistol that would be cheaper and easier to manufacture. The result was the "Wanad" pistol, chambered for the standard 9x18mm cartridge and adopted in 1984 as the "9mm *pistolet wz. 1983*", or simply P-83. "Wanad" in Polish means "vanadium," a silver-gray metal. However, this does not refer in any way to the materials used in the construction of the pistol, but is merely part of a Polish style of naming convention for its small arms.

A MOVE TO MODERNITY

While the new P-83 pistol had an overall similar profile to that of the P-64 and would be recognizable as a sibling, it was actually quite different in construction and design. As compared to the more complex and expensive manufacturing approach of the earlier P-64 design, the new P-83 made extensive use of sheet metal and spot welding in its construction.

As with the P-64, the P-83 employs a direct blowback system of operation. The chrome-lined barrel of the pistol is pressed and pinned into the frame and features a right-hand twist in the rifled bore. A heavy recoil spring wraps around the barrel, and the pistol has a somewhat small ejection port, behind which a large external extractor that also acts as a loaded-chamber indicator sits. Also, as with the P-64, the Wanad employs a DA/SA system of trigger operation, and



The P-83 was designed to lock open on an empty magazine and features a slide release lever above and behind the trigger. Note the takedown lever above the triggerguard.

“As compared to the more complex and expensive...P-64 design, the new P-83 made extensive use of sheet metal and spot welding in its construction.”

the trigger itself is grooved for purchase and constructed from sheet steel.

The pistol features an external hammer with a deeply grooved spur that can be thumb-cocked for a single-action trigger pull. A hammer-drop safety is mounted on the rear-left side of the slide and features two positions. When in the “up” position, the hammer cannot be cocked and the trigger is locked. If the hammer is cocked when this safety is engaged, the hammer will drop without firing the pistol and the trigger will remain in a rearward position. Disengaging the safety will then allow the trigger to snap forward and the pistol can be fired. If you immediately reengage the safety before firing, the trigger remains locked in the forward position. When the safety is swept down to disengage it, a red dot is exposed that indicates the pistol is ready to fire.

As is common on European pistols from this era (and the same as with the P-64), the P-83 features a heel-mounted magazine catch. It is a long, grooved lever that sits in a recessed portion between the lower rear halves of the synthetic grip panels. An integrated lanyard ring is located at the base of the left-side grip panel, while an additional low-profile ring is located on the base of the magazine.

Where it differs most notably from the P-64 is that it features a slide catch/



The pistol features a European-style heel magazine release as well as an integral lanyard ring on the left side of the frame.

• • •

release lever. Made of stamped sheet steel with integral grooves for purchase, the lever is located at the top forward portion of the left-hand grip panel. It engages the follower of the magazine to lock the pistol open when empty, and it can be engaged by the shooter’s thumb to manually lock open the slide. While the P-64 had a 6+1 capacity of 9x18mm rounds, the new P-83 has an eight-round magazine. The steel magazine has open windows on both sides of the magazine’s body to allow visual access to the amount of rounds on board.

The sights of the P-83 are, as you would expect, very rudimentary. They are black and consist of an integral front blade and a drift-adjustable rear notch. The loaded-chamber indicator is located on the left-rear side of the slide, above the manual safety and below the rear sight. A serrated sighting plane along the top of the pistol is designed to help reduce glare from sunlight and

also enhance the ability of the shooter to engage the sights. Simple vertical slide serrations are located on both sides of the rear of the slide.

Disassembly of the P-83 is reasonably straightforward and simple. Engage the safety, remove the magazine and ensure the chamber is empty. Then allow the slide to go fully forward. Located inside the upper forward face of the triggerguard is a takedown release that you pull straight down. Then, pull the slide fully rearward and lift up its rear portion off the slide rails. You then ease the slide forward and clear of the barrel and remove the recoil spring from the barrel.

COLD WAR COLLECTIBLE

During the Cold War, this pistol would have been extremely rare in the West, known only to serious collectors. However, with the very different world in which we live today, that fortunately has changed. Recently, large numbers of P-64 and (to a lesser extent) P-83 pistols have been appearing on the surplus market at very reasonable prices. I recently picked up an excellent condition P-83 with matching numbers from Southern Ohio Gun.

The pistol was described as being in “very good” to “excellent” condition, and I can find no fault with that description. The pistol I purchased featured an excellent finish with practically no wear marks as well as nearly new-looking grip panels. It came packed in a box with a spare magazine. As noted above, all numbers were matching on the pistol. As was my experience with a P-64 pistol I recently purchased, the double-action trigger pull was extremely heavy (off the scales of my 10-pound trigger-pull gauge). The single-action pull of the pistol was a manageable 5 pounds.

As a fan of ComBloc small arms, I was very happy to have the opportunity to pick up one of these Polish P-83 pistols for myself. As with all surplus guns, if you would like one, I highly recommend that you pick one up now before they are all gone. For more information, visit southernohiogun.com or call 800-944-4867. ■

Specifications:

Polish P-83 Wanad

CALIBER:	9x18mm
BARREL:	3.5 inches
OA LENGTH:	6.5 inches
WEIGHT:	26 ounces
GRIPS:	Synthetic
SIGHTS:	Blade front, notch rear
ACTION:	DA/SA
FINISH:	Blued
CAPACITY:	8+1



AIR SERVICE M1903

This ultra-rare variant of the classic .30-06 rifle is an all but forgotten relic of WWI!

By Bruce N. Canfield

One of the better-known U.S. military weapons of all time is the “U.S. Rifle, Caliber .30, Model of 1903.”

It is considered by many to be the epitome of the bolt-action military rifle and proved its versatility in two World Wars. As a few examples of this versatility, in addition to the standard infantry rifle variant, '03s were used, among other duties, as sniper rifles, trench periscope rifles and grenade-launching platforms. During World War I, an extremely interesting and little-known variant of the M1903 was modified for use by the fledgling U.S. Army Air Service. Generally referred today to as the “Air Service '03,” the rifle was basically a standard M1903 service rifle with a specially shortened stock and handguard, a simplified rear sight and a 25-round exten-

sion magazine. It was clear from Ordnance documents of the era that the weapon was not intended for infantry use, as it was described as being “stripped for Air Service.” Although genuine examples are very rarely seen today, the existence of the weapon has been well known for a number of years. What is not so well known, however, is the actual purpose for which the weapon was designed. Clearly, it was to have some application for the Army's Air Service, but documentation from the era does not specify the exact use for which the gun was intended.

.30-06 STOWAWAY

Several theories have been advanced. The most common seems to be that the weapon was intended for use by personnel manning the

observation balloons that were commonly employed in WWI for artillery spotting and monitoring troop movements. It has also been opined that the guns were to be utilized as defensive armament for two-seat observation/scouting aircraft. Still another theory postulates that the rifles were intended to be carried in an aircraft in the event a pilot was forced down behind enemy lines (not an uncommon occurrence) and needed a weapon more effective than a handgun for self-defense.

After considering the relative merits of these theories, the latter would seem to be the most likely. The usefulness of a bolt-action rifle against enemy aircraft while firing from the unstable platform of a

The Air Service version of the bolt-action Model 1903 Springfield sported a long magazine holding 25 rounds of .30-06 Springfield ammunition.



To create a lighter version of the Model 1903 for Air Service uses, the Springfield's walnut stock and handguard were cut down and the front and rear sling swivels were removed.

• • •

This World War I U.S. Army Air Service recruiting poster offers men the chance to learn to fly and earn money along the way.



swaying balloon basket appears to be quite implausible. Likewise, a manually operated rifle would hardly be a suitable weapon with which to counter enemy fighters armed with multiple machine guns. It would seem that both of these theories fly in the face of logic. Thus, almost by default, the utilization of a modified bolt-action service rifle by a downed pilot seems to be a much more persuasive argument.

Since a pilot would not be equipped with a cartridge belt, the 25-round extension magazine would provide a reasonable supply of ammunition self-contained in the rifle and ready for immediate use. The cut-down stock and handguard, the elimination of the sling swivels and other modifications would result in a slightly lighter

weapon, which was a useful attribute in the airplanes of the day when every ounce of extra weight counted.

This speculation is supported by several Ordnance Department documents of the era, including the original Springfield Armory blueprints, which refer to the weapon as "U.S. Rifle, Model of 1903, Altered for Aircraft use." Another document pertaining to the gun's 25-round extension magazine revealed that the component was expected to be adopted "for aeroplane...use." Such documents would seem to refute the balloon-armament hypothesis since balloons were not typically referred to in such a context as either "aeroplanes" or "aircraft" during that time.

On March 13, 1918, the Ordnance Department requested that a prototype of the proposed weapon be

fabricated at Springfield and sent to Washington, D.C., to be subsequently forwarded to France for testing under "combat conditions." A memo dated the following day ordered Springfield Armory to determine the time necessary to build 2,000 rifles of this type. On April 29, 1918, Ordnance documents confirm that the requested prototype Air Service '03 Rifle was delivered to Col. H.H. Arnold (later General "Hap" Arnold of World War II fame). Subsequent documents reveal that General John Pershing requested that 825 "Air Service" rifles be sent to France for use by the Allied Expeditionary Force by June 1, 1918.

It is confirmed that the U.S. Army Signal Corps Control Board convened in June of 1918 to evaluate the proposed weapon and suggest any necessary modifications. It might seem odd that the Signal Corps was the recipient of the prototype rifle, but, at the time, it was the entity responsible for procurement of aircraft and related equipment. The board proposed a few minor modifications, chiefly

“While never used for its intended purpose, the Air Service rifle is yet another example of how the venerable M1903 rifle was modified...”





While the Air Service M1903 (bottom) featured a shorter stock and an updated rear sight, the action and barrel are essentially the same as that of the original M1903 rifle (top).

• • •

pertaining to the rear sight. The suggestions were approved by Ordnance and Springfield Armory was directed to begin manufacture of the weapon.

FRONTLINE TESTING

The Air Service '03 utilized the same receiver, barrel, bolt and front sight as the standard M1903 rifle. Original Air Service rifles have been observed with serial numbers ranging between "856709" and "862069," but numbers in close proximity on either side of this range could be possible. Barrels were marked "SA" with the Ordnance "flaming bomb" insignia and dated from early to mid-1918.

The stock, handguard and barrel band were purpose-made by Springfield Armory and were not simply modified standard '03 components. The solid (not split) barrel band was secured by a single woodscrew. A standard '03 service rifle M1905 rear sight was altered by cutting down the sight leaf, modifying the sighting notch and permanently setting the drift slide at the 100-yard increment by means of a machine screw inserted through the peephole.

The 25-round extension magazine prototype was manufactured by the National Blank Book Company. The magazine assembly replaced the standard rifle floorplate and was not intended to be detachable. The same extension magazine pattern was also used with the rare experimental

Cameron-Yaggi M1903 "Trench Periscope Rifle." Also, it is not widely known if fairly sizeable numbers of these magazines were fabricated for use with standard M1903 service rifles for trench warfare. However few, if any, were actually issued before the Armistice. Most of these magazines were apparently destroyed after the war as surviving examples are relatively scarce today.

Specifications:

Model 1903 Air Service Rifle

CALIBER:	.30-06 Springfield
BARREL:	24 inches
OA LENGTH:	43.5 inches
WEIGHT:	8.5 pounds (empty)
STOCK:	Walnut
SIGHTS:	Fixed front, rear notch
ACTION:	Bolt
FINISH:	Parkerized
CAPACITY:	25

Even though General Pershing requested 825 Air Service Rifles, Ordnance Department documents reveal that 908 of the weapons were manufactured and shipped from Springfield Armory to France on June 25, 1918. The exact date the weapons arrived in France, or the reason(s) for the additional 83 rifles, is not known. On November 5, 1918, only a few days before the Armistice, a memo by Head of Aircraft Armament Service Headquarters, Lt. Col. H. J. Maloney, stated that 680 Air Service Rifles were in storage in Is-sur-Tille, France. The distribution of the 228 rifles (the difference between the 908 shipped to France in June and the 680 in storage) has not been accounted for.

Interestingly, Lt. Col. Maloney's communiqué stated that these rifles "were definitely not needed as armament for observers in aircraft" lends even more credence to the assumption that the



The Air Service M1903's rear sight (top) was modified from the original (bottom) by doing away with the sliding leaf and setting the drift slide at the 100-yard notch.



rifles were intended as personal armament for downed pilots and not for defensive armament in airplanes. Other Ordnance documents of the period confirm that 25 Air Service '03s were tested by the infantry to evaluate the suitability of the 25-round extension magazine for ground combat use. The results of such testing have not been discovered.

The Springfield Armory report for the fiscal year of 1920 stated that the 910 rifles "stripped for Air Service" had been manufactured, which indicated that two additional rifles beyond the 908 sent to France in June 1918 had been manufactured. It would seem apparent that this figure (910) represents the total production of Air Service '03 rifles.

It is interesting to note that the same pattern stock, handguard and barrel band used with the Air Service '03 rifle were also used to assemble the handful of experimental M1917 rifles altered for sniping use and tested with a prototype Winchester telescope late in WWI. The telescope was eventually adopted as the "Model of 1918" and was intended to be teamed with a modified M1917 rifle. However, the sniping rig was not standardized and only a very small number were manufactured for experimental purposes.

OUT OF SERVICE

After the end of World War I, the Air Service '03 rifles were returned to the United States and put into storage until their ultimate disposition could be determined. It has been suggested that some of the Air Service rifles were perhaps used in Navy dirigibles in the 1920s and 1930s, but no evidence to confirm this has been forthcoming.

In the mid-1920s, the decision was made to convert some of the Air Service rifles to standard service rifle configuration and to destroy the balance of rifles not converted. The reason(s) for not converting all of the Air Service Rifles is not known. An Ordnance Department memo dated June 19, 1925, stated that 139 Air Service Rifles were converted to service rifle configuration at Raritan Arsenal in New Jersey.

The memo stated, in part: "Information is furnished that the modification of the caliber .30 Rifles, altered for aircraft use...required re-stocking and substituting movable stud and...sight leaf...One hundred and thirty-nine (139) of these Rifles have been modified as stated above and are now avail-

M1903 rifles or Pedersen Devices.

There have been some standard M1903 rifles sporterized and fitted with one of the surplus 25-round extension magazines that some owners believe to be genuine Air Service rifles. However, these are generally easily spotted by the incorrect serial number range and the identifying features specific to the genuine article. Fabricating a convincing bogus example would be more difficult than it might appear.

A cut-down standard M1903 service rifle stock would be readily apparent because of the inletting inside the stock, and the recess for the rear sling swivel would be obvious. Likewise, the configuration of the Air Service handguard would preclude a standard



Because airmen weren't expected to use a sling for carrying the rifle, the Air Service M1903 (top) lacked the sling swivels of original Model 1903 rifles (bottom).

able for issue as U.S. Rifles, caliber .30, M-1903 at a cost of \$168.38." Although no further documentation on the subject has been discovered, the remaining Air Service rifles were undoubtedly either destroyed or converted at other ordnance facilities.

Surviving examples of genuine Air Service M1903 rifles are quite rare since they were not made in large numbers and virtually all were subsequently converted to service rifle configuration or destroyed. Determining today's market value for an original specimen would be difficult since not enough have changed hands to establish any comparable values. However, these rifles are substantially rarer than either "rod bayonet"

M1903 handguard from simply being shortened. It is conceivable that a new stock and handguard of the proper configuration could be fabricated and artificially aged to mimic the real thing but such forgery, thus far, has not been reported. Any purported genuine Air Service rifle offered for sale should be examined very closely and, if possible, someone with expertise on the subject should be consulted.

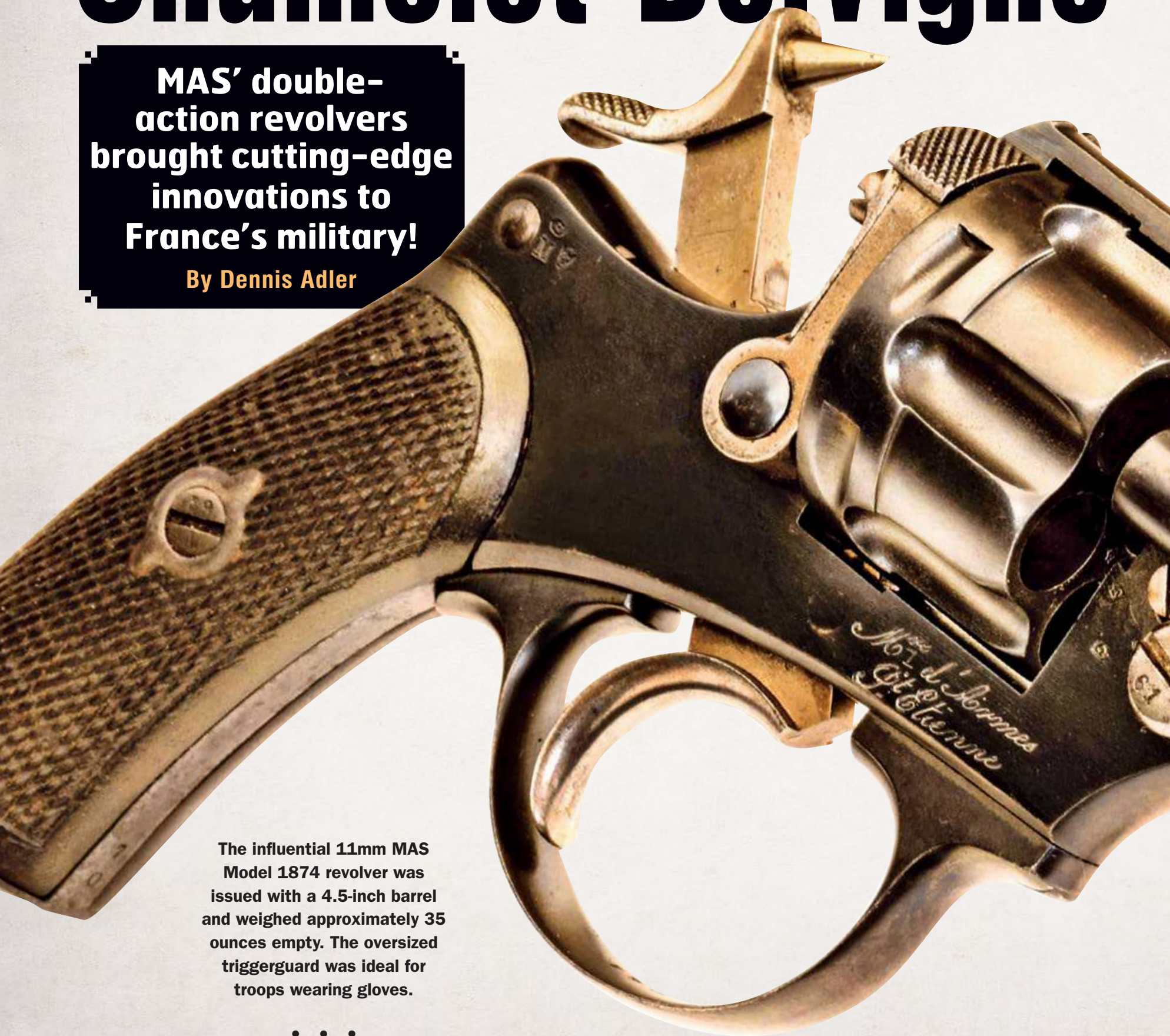
While never used for its intended purpose, the Air Service rifle is yet another example of how the venerable Model 1903 Springfield rifle was modified to meet a requirement that was never conceived of when the weapon was adopted back in 1903. ■



French 11mm **Chamelot-Delvigne**

MAS' double-action revolvers brought cutting-edge innovations to France's military!

By Dennis Adler



The influential 11mm MAS Model 1874 revolver was issued with a 4.5-inch barrel and weighed approximately 35 ounces empty. The oversized triggerguard was ideal for troops wearing gloves.

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MAS revolvers were issued with lanyards and full-flap holsters that could be worn on the belt or over the shoulder.

In the 1870s, America regarded itself as the world leader in the design and manufacturing of handguns. Colt and Smith & Wesson were revered by the U.S. military, which armed its troops with their revolvers, and Americans venturing forth during the Westward Expansion were armed with every type of Colt and S&W revolver available, old and new alike. But in truth, the French firearms industry was fully one step ahead of America at the time, and it would take until the turn of the century for Colt, S&W and other established U.S. arms manufacturers to firmly take the lead and hold onto it in the 20th century. Having said that and infuriated countless 19th century American arms enthusiasts, let me make this introduction clear: In 1835 Samuel Colt invented and patented the first successful revolver, and the rest of the world followed him. Thus, it is the story of those who followed that takes us to France in the 1870s and *Manufacture d'Armes de Saint-Étienne*, or MAS.

ONE STEP AHEAD

Although the newly inspired cartridge-firing Colt Single Action Army, S&W American and Remington single-action revolvers introduced in the early 1870s were regarded as contemporary firearms in the United States, cartridge revolvers had been in use throughout Europe since the 1840s. And the self-contained metallic cartridge that had transformed American arms-making in the post-Civil War era was even older. Long before Samuel Colt secured U.S., French and British patents for his designs in 1835 and 1836, across the pond European arms-makers were not sitting on their hands—nor had they ever. When it comes to metallic cartridges (as opposed to loose powder and ball used in Colt's patented revolvers and in subsequent American-made revolvers manufactured after the Colt patent expired in 1857), the first patented cartridge design dates back to 1812, when Swiss inventor



“The Chamelot-Delvigne Model 1873 was a compact, rugged handgun with an un-fluted, six-round cylinder.”

Jean Samuel Pauley designed a self-contained, self-primed, centerfire metallic cartridge. Four years earlier Pauley had applied for another patent, this covering the design for the first in-line rifle, which he improved upon in 1812 with the introduction of a breech-loading rifle. Bear in mind that this was almost half a century before the Civil War and the general introduction of breech-loading cartridge rifles to the Union and Confederate militaries.

The percussion cap was an English invention that Sam Colt adapted to suit his new six-shooters (actually five-shooters in the 1830s). The French were also quick to recognize the advantages and were pioneers in rifled military percussion long arms with the Delvigne

(1828) and Thouvenin (1844) systems as well as perfecting the muzzle-loading rifled musket with Captain Claude Etienne Minie's famous "Minie ball" projectile. The first successful self-contained metallic cartridge produced in quantity was also French—Casimir Lefauchaux's pinfire cartridge (1836)—which was followed by Louis-Nicolas Flobert's rimfire cartridge (1845). And we should be thankful for the latter. It was Flobert's rimfire that inspired Daniel B. Wesson's design and patent for the .22 Short in the U.S. (the oldest American metallic cartridge) and S&W's development of its first .22-caliber pocket revolver in 1857, the seven-shot Model No. 1.

Flobert's inspiration, however, ran even deeper with Mr. Smith and Mr. Wesson. Back in 1854, and prior to their establishing S&W, Daniel B. Wesson and

The grips were of typical European saw-handle style with coarse checkering and a military lanyard ring installed in the base of the grip frame.

• • •

Horace Smith worked together on designing a "saloon pistol" based on Flobert's single-shot rimfire cartridge gallery gun, only their design allowed multiple shots and the chambering of rounds using a ring lever (toggle link) action. Smith and Wesson's design evolved into the Volcanic rimfire pistols and repeating rifles of the 1850s, and with help from Oliver Winchester and American inventor Benjamin Tyler Henry, the Volcanic became the Henry lever-action rifle in 1860. And we all know where that leads. However, when it comes to cartridge-firing handguns, the sheer number of Lefauchaux pinfire revolvers imported into the U.S. during the War Between the States by both

Removing the cylinder required pulling the ejector rod forward, rotating it away from the cylinder arbor, pulling the arbor forward and rolling the cylinder out of the frame.



the North and South, along with more than 1 million pinfire cartridges, clearly made the case for breech-loading revolvers by 1865. Interestingly, the French were ahead on that score as well. Back in 1854, the French Navy was the first military organization to issue a cartridge-firing revolver, the Lefauchaux Model 1854 pinfire.

During the course of the Civil War, the Union Army acquired nearly 12,000 Lefauchaux pinfire revolvers, which were purchased under direct contract from the Ordnance Department and delivered by Marcellus Hartley, a partner in New York City importer and retailer Schuler, Hartley & Graham. Though little by comparison, the Confederacy imported another 2,500 pinfire guns between 1861 and 1865. As a result of the war, by the late 1860s, there were thousands of pinfire models remaining in use across the U.S., along with other European, British and American (S&W) cartridge revolvers in the hands of soldiers and civilians. When the calendar rolled over into 1870, Sam Colt's percussion pistols were all but obsolete, and by 1872, Colt and Remington, among other American arms-makers, were hastily turning out cartridge conversion models of their Civil War cap-and-ball revolvers.

FRENCH WARRIORS

In 1873, the same year Colt brought out the legendary Single Action Army, MAS introduced its new 11mm double-action revolver. The Chamelot-Delvigne Model 1873 was a compact, rugged handgun with an un-fluted, six-round cylinder. The un-fluted design was unique for two reasons: first, the rear section was of a larger diameter than the front so as to permit the location of the bolt stops without weakening the chamber walls (a problem Colt had suffered with the early 1860 Army models); secondly, the chambers had countersunk mouths to provide complete support for the cartridge heads, as there were no exposed rims at the back of the cylinder. The Model 1873 was left in the white, and this version was issued to French Army noncommissioned officers. A year later, the Model 1874

was introduced. This handsome, blued pistol had a contrasting white-steel hammer, ejector rod, loading gate and a distinctive fluted cylinder. The frame was also just slightly wider than the 1873. This version was issued to French Army officers.

If the Chamelot-Delvigne revolvers look familiar, there are at least two good reasons. A Model 1873 was carried by one of the outlaws who bushwhack Deputy Roscoe Brown (Barry Corbin) in the miniseries *Lonesome Dove*. That brief cinematic appearance might not

mechanism and the guns themselves were so overbuilt that they were almost indestructible.

MAS-TERFUL 11mm

Although the French Navy already had a centerfire Lefauchaux revolver by 1870, the Army wanted to stage its own trials, and the Small Arms Committee at *Vicennes* was given the task of finding a suitable weapon. Revolvers submitted included the Model 1870 Naval Lefauchaux, the Galand Model 1872, one from the arsenal at Puteaux, and

Manufacture d'Armes de Saint-Étienne manufactured the deluxe 11mm models for use by French Army officers beginning in 1874. An earlier version without the fluted cylinder was introduced in 1873 and issued to noncommissioned officers. The example shown was built in 1877. The loading gate pivoted straight back.



have left an indelible impression of the Model 1873, although the bandit wore the gun around his neck on a lanyard, and that's pretty unforgettable, but in the 2000 hit film *The Mummy*, star Brendan Fraser carried a pair of blued 1873s in a double shoulder holster, and those two revolvers got more screen time than some of the actors. Daniel Craig also carried a Chamelot-Delvigne revolver in the 2008 film *Defiance*, and the 1873 and 1874 have been used in more than a dozen movies (mostly period pictures) and a variety of American and British television miniseries. Like a Broomhandle Mauser, it is one of those distinctive handguns you can't fail to notice.

As to their names, both the Models 1873 and 1874 used a variant of the Chamelot-Delvigne lock mechanism developed in Belgium in 1871. The lock

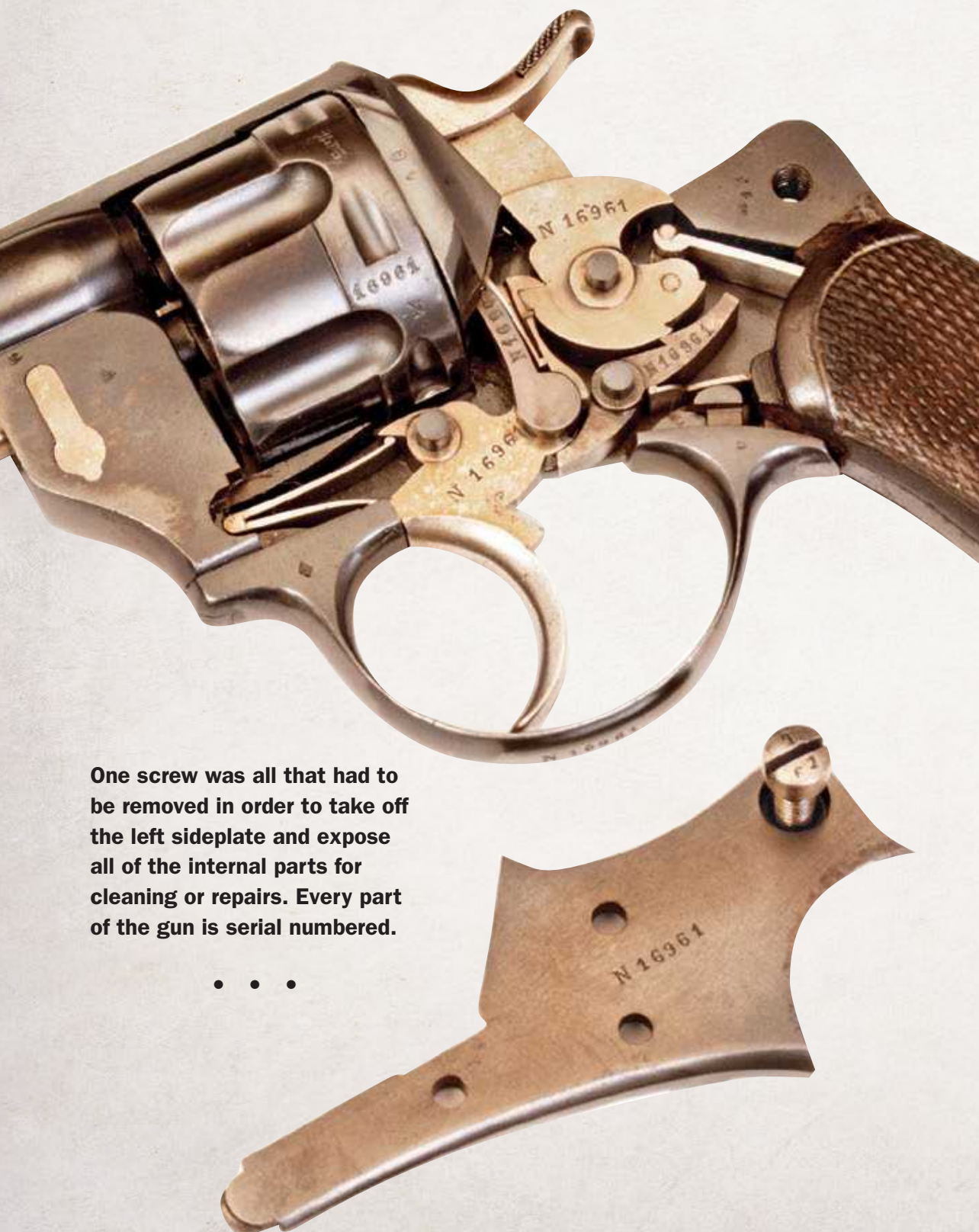
another designed by a French officer named Auguste Henri Delvigne. Inter-service rivalries doomed the Navy's Lefauchaux to quick rejection, while the Galand and Puteaux designs were deemed too complex. Thus Delvigne's revolver was chosen as the basis for the Army's new sidearm.

Delvigne had designed the gun in cooperation with a Belgian gunsmith by the name of Chamelot. Appropriately known as the "Chamelot-Delvigne system," it featured a simple and robust selective double/single-action trigger mechanism that employed a hooked lifter for self-cocking and, since the cylinder hand was attached to the trigger, the hook engaged a bend in the hammer breast to permit single-action fire. When fired in double action, a long sear engaged a notch in the breast of

FRENCH 11mm CHAMELOT-DELVIGNE



The ejector was held under tension at the front of the arbor and in place by a set pin in the face of the arbor. The revolver's half-round/half-octagonal barrel was screwed into an extension of the frame and bore.



One screw was all that had to be removed in order to take off the left sideplate and expose all of the internal parts for cleaning or repairs. Every part of the gun is serial numbered.

• • •

the hammer and rotated it to the rear. A rebound spring safety was used to prevent the hammer from moving forward far enough to fire a cartridge unless the trigger was pulled through its complete stroke. This system reportedly gave the Chamelot-Delvigne a DA trigger pull superior to most of its contemporaries.

At the same time in America, between 1873 and 1875, every arms-maker had new single-action cartridge models available, but in comparison to the double-action MAS Chamelot-Delvigne, they were all “technically” obsolete the day they were introduced! I say “technically” because, in point of fact, the MAS revolver could not be handled as easily as a Colt single action, nor was it as quick as Colt’s new 1877 and 1878 double-action revolvers, but the Colt double-actions were delicate guns that were prone to malfunctioning if not meticulously cared for, whereas the MAS Chamelot-Delvigne was built like an anvil. Every major component was oversized, particularly the hammer spur and loading gate. Rather than opening to the side, as was convention for loading gates in America, the MAS gate pulled straight back 90 degrees, clearing the way for easy loading and ejecting of spent cartridge cases. The ejector locked into place at the front of the cylinder arbor and was manually operated, with no spring to push the rod forward after kicking a case from the cylinder. While this minor inconvenience might have added a few additional seconds to the reloading process, clearance was such at the breech that reloading was quickly accomplished. The revolvers utilized a solid frame that had one truly notable feature: The left-hand sideplate could be removed for cleaning or repairs by simply unfastening one screw! Removing the cylinder and side panel was the only field-stripping required and either could be accomplished in one step.

The MAS Model 1873 Chamelot-Delvigne was issued with a standard 4.5-inch barrel and weighed approximately 35 ounces empty. Its grips were in the typical European saw-handle style with course checkering. One of the characteristic features of the French

“Like a Broomhandle Mauser, it is one of those distinctive handguns you can’t fail to notice.”



In this 1915 photo, the Model 1873 is still being carried by French troops. Their rifles are the *Mousqueton d'Artillerie Modèle 1892* (“Mannlicher-Berthier”), the most widely used French carbine of World War I.

revolver that may have contributed to its use in colder climates was an oversized triggerguard ideal for winter weather, where heavy gloves were usually mandatory wear when venturing out. This would have been a distinct advantage, particularly so in the Northwest and during the Klondike gold rush (1896-1899) where used guns and cartridges could have come through Canada and into the hands of Americans seeking their fortunes in the wilds of Alaska.

ANEMIC CALIBERS

One of the few disconcerting features of earlier European cartridge guns, as well as the first American cartridge guns built by Smith & Wesson, was the caliber. The S&W models were limited to .22 and .32 rimfire. Early European revolvers averaged around 9mm—roughly the equivalent of a .38—but the MAS revolvers chambered six 11mm cartridges. Oddly, in 1887 the French military decided to replace the hefty 11mm models with a lighter, smaller-caliber 8mm revolver. The loss of the military market and more than a decade of production may have prompted exports of the 11mm MAS revolvers—some to the U.S., where

the standard was the big .45 Colt, a cartridge very close in diameter to the 11mm French rounds. To be exact, an 11mm cartridge is between a .44 and a .45 in approximate case diameter, and it’s slightly shorter than the .44 Russian. With a shorter case and subsequently less powder, the 11mm didn’t pack quite the wallop of a .45 Colt, but it was more than adequate to get the job done at close range with a 179-grain, .446 heeled-lead bullet. Original cartridges were loaded with 10 grains of black powder and developed a most unimpressive velocity of 430 fps.

Specifications:

MAS Model 1873/74 Chamelot-Delvigne

CALIBER:	11mm
BARREL:	4.5 inches
OA LENGTH:	9.5 inches
WEIGHT:	35 ounces (empty)
GRIPS:	Walnut
SIGHTS:	Front bead, fixed U-notch rear
ACTION:	DA/SA
FINISH:	Blued
CAPACITY:	6

The Models 1873 and 1874 were produced by MAS from 1873 to 1887, with about 337,000 copies of the 1873 and 35,000 of the 1874. Although replaced by the Model 1892 revolver, the 1873 and 1874 were still widely used during World War I, and issued again to reserve units in 1940. The French Resistance also made widespread use of the MAS 1873 and 1874 revolvers during the German occupation, giving these 19th century handguns a remarkably long period of military and combat use.

FIELD TEST

During my field test, using 11mm cartridges specially created by Bernie Rowles of Old West Bullet Moulds in Fruita, Colorado, a Lyman electronic trigger pull gauge indicated that 8.12 pounds tripped my Model 1874’s cocked hammer, and 13.5 pounds was required when fired double action. With the MAS 1874 in hand and 100 rounds of Bernie Rowles’ 11mm cartridges, I headed to the test range to see if this front-heavy French sixgun truly earned its place in the history books. Pacing off 50 feet from the target and firing off-hand, the 11mm rounds went downrange at around 550 fps, placing the majority of shots within a 2.5-inch circumference. Rowles’ hand-loaded 11mm rounds had only modest recoil with a light 14-grain charge of American Pioneer. They were, however, remarkably consistent.

In the late 1800s, especially in the Northwest, if one had come across this well-built French revolver and a supply of 11mm ammunition, it no doubt would have served its owner well. Considering the condition of this example, it saw very little use during its life, a life no doubt spent in the holster of someone fortunate enough to have owned one of the finest double-action revolvers of its day. ■

The author would like to extend his thanks to author Paul Scarlata who contributed significant historical information and archival photos to this article.

SWEDEN'S SNIPER RIFLE



While in recent years Sweden has been a poster-child for the concept of a neutral state, such has not always been the case. For a period, she was one of the most powerful forces in Europe. But by the early part of the 19th century, much of the territory she had garnered in the Thirty Years War, and beyond, had been lost. Of course, she was still the major power in Scandinavia, and continued to adopt and develop new weaponry to hold onto the remainder of her erstwhile empire.

The country was officially neutral in World War I and II. Unfortunately in the latter conflict, as a means of self-preservation, there was some support and assistance of the Nazis. As a counterpoint to this, though, there was also surreptitious assistance to Jews and the Norwegian resistance during this same time.

Sweden had always been assiduous in keeping her arsenal up to date and innovative. During the 1600s, for example, a good portion of the Swedish cavalry used the revolutionary Kalthoff repeating carbine. In the cartridge era, troops were issued one of the finest breechloaders extant, the Remington Rolling Block, which was chambered in a 12.17mm rimfire

**The Model
41B MAUSER**
is unquestionably
in the top echelon
of the world's
great military
precision rifles.



• By Garry James •

PHOTOS BY JILL MARLOW

cartridge, which was eventually made in different variants domestically.

KEEPING PAGE

Though the Rolling Block continued to see service for a number of years, once the magazine repeater became viable, its days were numbered. Understanding it was to their advantage to at least maintain parity with the rest of Europe, Sweden began evaluating single-shot and repeating arms such as the Jarmann bolt-action, Mannlichers and the Norwegian Krag-Jorgensen. After considerable testing and evaluation, Sweden's final pick wisely became the bolt-action Model 1894 Mauser chambered in a 6.5mm cartridge.

The 6.5mm round itself was a rimless, bottlenecked affair with a 55mm case and a 156-grain, cupronickel-jacketed, round-nosed bullet with a muzzle velocity of some 2,380 fps. The cartridge and its descendants proved to be not only effective military rounds but also found great favor with shooters in the hunting field and at the target range.

The Model 94, eventually produced in a number of variations, was a superb weapon—beautifully designed, extremely reliable and fastidiously built. The action was essen-



Sweden's bolt-action m/41, developed in 1940 and adopted in 1941, was fitted with a German-built and designed AJACK 4x90 scope. The m/41B (shown), adopted in 1955, was issued with updated sights and a better sling.

• • •



“The rifle functioned impeccably, as one would expect with this high-quality version of the venerable Mauser action.”

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The Swedish m/41B is a beautifully made rifle that proved to be a superb and capable sniper arm. Note the simple metal disc screwed into the buttstock to show the model number.

tially that of the Spanish Model 93. While not the strongest of the Mauser actions, it was certainly more than able to handle the rounds for which it was chambered. Originally manufactured for the Swedes by the Germans at Mauser, production was taken up indigenously at *Carl Gustafs Stads Geværsfaktori* in Eskilstuna.

MAKING UPGRADES

Despite the high marks the rifle received, some in authority thought it could be made even better. Following the successful testing and evaluation of 12,000 of the 1896 German carbines purchased from Mauser, it was decided to develop an infantry rifle based on this model, resulting in the development and adoption of the *Gevär m/96 Mauser*. This new rifle had many qualities similar to those of the Model 94, but it also offered some differences, such as the addition of a thumb recess on the side of the receiver to enable the soldier to be able to easily strip off cartridges when loading with a five-round stripper clip. Because the recess effected a break in the guiding of the left bolt lug, the bolt was equipped with a special guide bar that slipped in the upper groove of the receiver when the bolt was withdrawn. Early incarnations of this rifle had straight grip walnut stocks and handguards, while those on late-production arms were made from elm or beech.

The upper band was also modified to accept the gun's unique all-steel, hollow-handled bayonet and the gun was fitted with a step-style ladder rear sight graduated from 600 to 2,000 meters.

The long rifle itself (there were a number of different short rifle and

carbine variations produced through the gun's long lifespan) measured 49.5 inches long, weighed 9 pounds and had a 29-inch barrel. Rifling was four grooves with a right-hand twist. The stock was walnut and all parts were steel and (with the exception of the cleaning rod, bolt body and a few smaller bits and pieces) blued. Initially built at Mauser, like the

Model 94, production was eventually assumed by *Carl Gustafs*.

Based on its developmental history and meticulous manufacturing standards, the rifle proved to be a real winner—supremely accurate, rugged and reliable. Accuracy was so good, in fact, that it was chosen to be the platform of Sweden's m/41 sniper. Model 41s were not built from scratch but were chosen from a stock of already existing arms



The AJACK scope is elevation adjustable (bottom left, right) by turning a ring and securing it in place with a screw. Pulling the locking lever (top) releases the scope.

that had exhibited exceptional accuracy. Generally speaking, the rifle itself was unmodified, with the exception of the addition, over a period of time, of different types of scopes and mounts, the turning down of the bolt handle to better clear the optics and other smaller details.

LONG-RANGE THREAT

The m/41, developed in 1940 and adopted, as its designation indicates, in 1941, was initially fitted with the German-built and designed AJACK 4x90 scope, a 4X scope chosen from a line of other AJACK models. AJACK was a respected German optical firm (*Adolph Jackenkroll Optische Anstalt GmbH*, Berlin) dating from prior to World War I that supplied sporting scopes worldwide. These scopes possessed binocular-style individual focusing capabilities, a variety of reticle options as well as internal elevation adjustments that were effected by a turret atop the scope body that could be easily manually operated and secured by a locking screw. Windage was taken care of in the scope mount itself.

The rifle was intended to be used in conjunction with the new 1941 6.5mm *skarp patron m/94 prickskytte m/41* (cartridge m/94 sniping m/41) round which employed a 139-grain spritzer bullet and offered an impressive velocity of 2,625 fps.

By 1942 German authorities decided that it was more important to keep arms and equipment for their own forces, so export of materiel (including scopes) ceased. As a result, Sweden felt it prudent to turn to indigenous manufacture (*Svenska Ackumulatorfabriken Jungner*), adopting the AGA42 scope and, two years later, the improved AGA44, though its 3X power was considered inferior to the 4X AJACK magnification, especially at ranges exceeding 600 meters.

Following the war, the AJACK 4x90 was returned to service along with an improved, sturdy short rail system that, unlike the earlier *Jackenkroll* arrangement, kept the unit securely in place. The ring/mount unit could be easily removed by rotating a camming lever to the rear to free it from the rail, and a

screw on the rear-left side of the mount afforded windage adjustment. Each mount and base system was hand-fitted to the individual gun and not interchangeable with that of another rifle.

The scope reticle was a typical Germanic “picket post” style involving two horizontal stadia interrupted by a pointed central vertical post. Focusing was via a brass ring near the ocular lens that could be adjusted from +3 to -3 diopters. A top turret with forward-mounted locking screws allowed the range to be adjusted from 100 to 800 meters.

The scopes, when not mounted, were carried in special gray-green metal tins equipped with leather shoulder straps.

The rifle’s earlier ladder-style rear sight was replaced with the more sophisticated dial-type micrometer *Feinvisier SM m/55* graduated from 100 to 600 meters. Front sights involved a simple blade protected by a spring-steel slide-on cover. Thus configured, the rifle, adopted in 1955, was redesignated the m/41B.

An elaborate m/41B leather sling with a rubberized loop section, for better purchase when being properly used in the shooting position with the left arm through the loop, replaced the simple leather strap-and-buckle arrangement used on the standard m/96 rifle.



The front sight (left) consisted of a simple blade with a removable spring-steel hood. Instead of M96-style ladder sights, the m/41B’s rear sight (right) is an m/55 diopter.

RANGE REPORT

I’ve shot my own m/41B a good number of times. It’s a *Carl Gustafs*, originally made in 1910 and in just about pristine condition. The scope is very easy to adjust and the optics are excellent. The rifle is heavy (11.2 pounds) and this, when coupled with the relatively light recoil of the 6.5mm cartridge, ensures recoil is more than manageable, even when shooting off the bench. The rifle functioned impec-

cably, as one would expect with this high-quality version of the venerable Mauser action. Because of the scope clip, loading was thwarted and rounds had to be loaded singly, but this proved to be no major hindrance. The gun’s typical two-stage trigger pull measured a crisp 5 pounds.

On a recent outing using Swedish military issue *m/94* FMJ ammo loaded with m/41 bullets and Hornady 140-grain SPs, groups were what I had become used to in the past, with 100-yarders offering minute of angle and spreads at 200 and 300 yards not exceeding 2.25 and 3 inches, respectively.

Over the years, I’ve shot a number of sniper rifles contemporary to the m/41B and must admit that this Swedish number comes in right near the top of the pack. Perhaps my only trepidation concerns the turret locking screw, which seems to me rather vulnerable to being bent or broken. Summing up, the m/41B is a class act in quality, appearance and performance. ■

Specifications:	
Mauser m/41B	
CALIBER:	6.5x55mm
BARREL:	20.1 inches
OA LENGTH:	49.5 inches
WEIGHT:	11.2 pounds (w/scope)
STOCK:	Walnut
SIGHTS:	AJACK 4x90 scope
ACTION:	Bolt
FINISH:	Blued
CAPACITY:	5



VIET CONG WEAPONRY



Perhaps enough time has passed and enough wounds have healed in the last four decades to permit a scholarly summary and even a base appreciation of the simple small arms manufactured and used by the Viet Cong against our forces during the Vietnam War.

The French had been involved in Indochina as early as the 17th century and, after a brief war with China, consolidated the area as a French colony in 1883. Small groups of locals rebelled from time to time, but the French managed to hold on until World War II, when the Japanese invaded and then forced conces-

The crude and effective guerrilla small arms of the Vietnam War.

By W. Darrin Weaver

sions from pro-Axis Vichy France. The Japanese were brutal occupiers. In response, anti-colonial Nationalists such as Ho Chi Minh and his followers consolidated the various resistance groups, Catholics, business owners, Communists and farmers into the Viet Minh.

The Vietnamese were somewhat effective in harassing the Japanese and what remained of the Vichy French, armed with a motley assortment of local crossbows, spears, muskets, shotguns and whatever arms they could steal or capture. Support and some small arms from the United States' OSS, the USSR and the Chinese Nationalists followed and the Viet





NARA
Photo

ABOVE: Later in the Vietnam War, the Viet Cong primarily used the Type 53 Carbine (M44), the Type 56 (SKS), the Type 56 (AK-47, shown) and the K-50 from China and North Vietnam.

LEFT: A Viet Cong soldier crouches in a tunnel with a 7.62x39mm Type 56 SKS featuring an integral bayonet as well as a 10-round magazine.

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NARA
Photo

Minh fought the Imperial Japanese Army until the end of the war in 1945. With the Japanese gone, Ho and the Viet Minh seized power and declared independence.

The French, still very much bruised by WWII however, wanted their colony back and the bloody First Indochina War ensued (known as the “Anti-French Resistance War” in contemporary Vietnam). By this time, the Viet Minh were better armed, having a mixture of French, U.S. and surrendered Japanese small arms, but there were still not enough to go around. Again, the Viet Minh used whatever they could manufacture locally. The French were heavily supplied with small arms from the U.S. and those it had captured from the Nazis or continued manufacturing in French-occupied Germany. Eventually, the country was divided at the 1954 Geneva Conference into the Communist

Democratic Republic of Vietnam in the north and the Republic of Vietnam in the south, as the French withdrew.

Members of the Viet Minh were left behind in the south to organize an insurgency and immediately began agitating and undermining the pro-Western government. The situation on the ground and subsequent escalation of U.S. intervention of course evolved into the Vietnam War.



Very crude but probably at least temporarily functional, this semi-auto carbine was made to look like the U.S. M1 Carbine.

U.S. Navy Museum Photo

This Viet Cong SMG is based upon the tried-and-true Sten design. This crude example appears to be select-fire with double-set triggers.

U.S. Navy Museum Photos

By about 1970 the Viet Cong inventory was fairly standardized with Communist small arms, including the North Vietnamese-produced K-50 submachine gun, with its collapsible wire stock.

NARA Photo

PRIMITIVE WEAPONS

From a small arms standpoint, between about 1954 to 1963 the

North Vietnamese Army (NVA) was fairly well equipped, with the assortment of foreign arms already discussed, as well as regular shipments of arms from China after 1949. The NVA cadre and Viet Minh in the south—which became officially known as the National Liberation Front for South Vietnam, and colloquially known as the “VC” or Viet Cong (“Viet Cong” is a contraction of sorts of the term “Vietnamese Communist”)—were cut off from their main source of supplies north of the DMZ. Once more, they had to make do with what could be bought on the black market (often paid for by the sale of opium), smuggled in on the unreliable Ho Chi Minh Trail, or made locally. Needless to say, standardization in VC units was non-existent.

Generally, the lower the unit was in the VC organization, the more primitive the weapons. Main force, HQ and regional units were better equipped. Early on, these types of units had a fair amount of French weapons, ex-German *Wehrmacht* (in some cases passed along from the USSR) K98s, MP40s and MG34s and, as the insurgency went on, more and more Soviet M44s, Chinese Type 53 carbines, SKSs and eventually AK-47 rifles.

A local VC militia on the other hand might have none or only a few modern weapons. To compensate, villages and hamlets were protected by a system of

This primitive, single-shot, smoothbore pistol utilized a simple nail as a safety.

Sidearms like this 1911-style knockoff were less commonly made but were used by Viet Cong officers and assassins.

National Firearms Museum Photo

This locally made, .30-caliber, bolt-action Viet Cong carbine was captured in Thanh Dien on July 9, 1967, and is now part of the National Firearms Museum’s extensive collection.

National Firearms Museum Photo



This is a simplified, locally made copy of the venerable U.S. Thompson submachine gun with rudimentary sights, controls and furniture.

USMC Photo



With a mechanism probably inspired by the British Sten, this almost toy-like, green-painted submachine gun was chambered in 7.62mm and could have been deadly for both the opponent and the operator.

U.S. Naval Academy Museum Photo



Another popular Viet Cong rifle was the Chinese Type 53 Mosin-Nagant, a license-built version of the post-war Soviet M1944 carbine.

early-warning observers, entry and exit points booby trapped with Punji-stick-filled pits or grenades attached to tripwires, traditionally made spears and crossbows as well as crude, locally made pistols and long arms. VC cadre often set quotas, and villagers, including schoolchildren, were required to make so many Punji sticks, improvised explosives, crossbows or primitive firearms per day.

Workshops for the manufacture of firearms varied greatly. It may have been a single hut in a village or

a well-camouflaged facility deep in the jungle. VC workers used simple hand tools to shape metal components and wood stocks. More sophisticated workshops with more skilled labor existed deep inside the vast array of tunnel complexes constructed by the VC in South Vietnam, especially in and around Cu Chi in the so-called “Iron Triangle.”

IMPROVISED HARDWARE

The VC used whatever materials they could scrounge—pipe, wire, old hinges, door lock mechanisms, metal bands, copper, brass, spent ordnance, scraps of steel or aluminum from downed aircraft, nails for firing pins, etc. Broken or incomplete firearms were repurposed or rechambered for whatever ammunition was most readily obtainable. Tolerances were poor and proper metallurgy non-existent on the majority of weapons produced



NARA Photos

A U.S. Army MP inspects a captured Viet Cong AK-47 in 7.62x39mm. These rifles were increasingly supplied by China as the war progressed.





NARA Photo

U.S. Navy Museum Photo

locally, and the rifling of barrels was far beyond the skill of most VC weapons makers. Type and complexity ranged from single-shot, slam-fire pistols and rifles made from smooth water pipe, barely capable of firing a few shots before falling apart, to rather complicated and functional copies of more modern designs. Of course, whenever possible, the cruder weapon would be used to kill their enemies with the hope of obtaining a more modern weapon.

Of note, concerning even the most primitive and barely functional examples, the author has observed a seemingly concerted effort to make jungle-made weapons appear to be more formidable than they actually were. Bolt-action shotguns made from pipe for instance, housed in a stock that looked outwardly similar to the M1 Garand. Others include simple spring-action repeaters that mimic the M1 carbine, broken SKSs repurposed to look like an AK, and crude pistols made to look like the 1911A1. The list goes on and on. The probable rationale behind this was, at least from a distance, a U.S. or Army of the Republic of Vietnam (ARVN) unit might actually assess that a given VC unit might be better armed than it actually was. Or perhaps it was simply that the VC copied whatever more modern weapon they had on hand, which was most likely one of U.S. design.

From 1963 to 1965, the North was managing to sneak whole NVA regiments into the south. U.S. and ARVN forces were unable to effectively stop the flow of munitions and weapons on the Ho Chi Minh trail and traffic had picked up enough to begin equipping even the lowest-echelon VC units with more modern Soviet and Chinese weaponry. The most

commonly encountered weapons were the Chinese Type 53 carbine, the SKS, the AK-47 and the North Vietnamese-produced K-50 submachine gun. This enabled the insurgents to graduate from propaganda actions, defensive or brief harassment engagements to larger coordinated offensive operations against the government of the South and U.S. forces.

In 1968, the VC left its hamlets and tunnels and mounted its most famous campaign, the Tet Offensive, which targeted over 100 urban centers in the south, to include the U.S. Embassy in Saigon. Bold but militarily unsuccessful, Tet decimated the rank and file of the VC, forcing the North to fill one-third of the Viet Cong units with NVA regulars.

By about 1970, the Viet Cong inventory was fairly standardized with CHICOM small arms down to the village level. Jungle workshop and homemade small arms were regularly encountered by U.S. forces and its allies up until the mid-1960s, and only sporadically thereafter. Captured examples were studied and sent back to facilities in the U.S. and nearly every military museum in the U.S. has an example or two in their collections. Many more were captured by servicemen and sent home as souvenirs, and these turn up from time to time on the market or at shows. Though crude and largely unsafe to fire, they are important pieces of firearms history, representing what can be produced with scant materials and little know-how as well as the extremes that humans will go to in times of war and adversity. ■

Author's Note: *The author wishes to thank the staff of the United States Navy Museum, Washington Navy Yard, Washington D.C., the United States Naval Academy Museum, the United States National Archives and Records Administration, the United States Army, the U.S. Army Ordnance Museum, the United States Marine Corps Museum, the NRA's National Firearms Museum, the over 3.4 million U.S. military veterans who fought, toiled and bled in Southeast Asia and the many service members who lost their lives in an attempt to stop Communist aggression and defend the civilians in the Republic of South Vietnam.*

• • •

LEFT: A crude smoothbore, slam-fire VC rifle made from scrap metal and housed in a two-piece handmade stock.

FAR LEFT: In 1956, the Type 56 SKS became a workhorse for the People's Liberation Army in China and later found favor among Vietnamese guerrillas.

Build Your Own GARAND



The Civilian Marksmanship Program's Advanced Maintenance Class gives you the inside scoop on this classic battle rifle!

■ By Michael O. Humphries ■



When it comes to the M1 Garand battle rifle, the Civilian Marksmanship Program (CMP) is the go-to source for enthusiasts. Offering M1 Garands (and other firearms from time to time) for sale in a range of grades and conditions, the CMP can sell these surplus military rifles direct to qualified U.S. purchasers.

In addition to rifle sales (and its overall mission of encouraging and supporting marksmanship programs for the citizens of this country), the CMP is also offering a unique hands-on class in its Anniston, Alabama, facility. The Advanced Maintenance Class is designed to offer students with a strong

mechanical aptitude and matching interest in the Garand an opportunity to learn how to work on their rifle and also build one for themselves (included in the \$1,800 class fee).

With the first class held back in 2013, the Advanced Maintenance Class has proven to be a smashing success. Not intended for gunsmiths or advanced students but rather as an entry-level approach, the class is held over three days and is made up of both classroom lecture sections and hands-on shop time. Under the direction and guidance of the CMP's Custom Shop gunsmiths, students are educated on topics such as component purpose and

function, barrel installation, malfunctions and remedies, as well as other techniques through verbal presentations and video demonstrations. New for 2015 are special limited-availability "buddy" classes that allow for pairs of students who want to attend the class together. Both "buddies" will be required to pay the \$1,800 fee and will build their own rifle.

The end result of attending this class is that students will achieve a deeper knowledge of this classic American battle rifle and the means for ensuring its proper maintenance and operation. Tools are provided to students for use during the course of the class. Some of the key elements of the course that students will perform is as follows:

- Component purpose and function
- Use of gauges
- Commercial barrel installation, chambering and headspace
- Component selection and inspection
- Fitting and proper assembly of a complete CMP Special rifle
- Some discussion of malfunctions and their remedies
- Accurizing techniques for the M1

No prior armorer or shooting experience is required to attend the class, and all a student needs to bring along is safety glasses and a shop apron. For more information on the class and dates of availability, visit the thecmp.org or call 256-835-8455. ■



Gun Photo Above: Steve Woods

The Advanced Maintenance Class is a hands-on course for M1 Garand enthusiasts.

WALTHER MP SUBGUNS



THE 9MM SMG

that delivered full-auto firepower to Cold War-era tactical units!

By Leroy Thompson

In the history of European submachine guns, it is easy to overlook the Walther MP series—but that would be a mistake. While the Heckler & Koch MP5 has become such an iconic submachine gun (SMG), it is easy to forget that initially in Germany it was outpaced by another SMG that had been developed by Walther a few years earlier. Offered in two primary versions, made up of the MPL (*Maschinenpistole Lang*) and the MPK (*Maschinenpistole Kurz*)—"Lang" for long or "Kurz" for short—the weapon began production in 1963 and remained in production until 1985. However, actual development of what would become the MPL and MPK began much earlier, during the 1950s.

The Walther fires from an open bolt and is of an interesting design. It is the shape of a "Lazy L," as they would say if it were a cattle brand, as the "L" appears to be on its side. Much of the bolt's weight is located above the bolt face. The operating spring guide rod extends through the bolt from the rear of the receiver and helps guide the bolt within the receiver. This guide rod is critical to the operation of the MP as it also guides the main spring. Cuts on the bolt keep dust or debris from clogging the action. The bolt is not captive to the cocking handle, so it remains in the forward position while the bolt is cycling.





Walther's *Maschinenpistole Lang*, or MPL, was a 9mm submachine gun that fired from an open bolt using an innovative blowback operating system. With the stock folded to the right side, the MPL can still be fired.

• • •

“The most well-known use of the Walther MP by German police was probably during the Munich Olympic hostage crisis.”



• • •
The shorter 9mm *Maschinenpistole Kurz*, or MPK, featured a 6.8-inch barrel. Note the safety selector's three positions: “E” for semi-automatic fire, “D” for fully automatic fire and “S” for safe.

FULL-AUTO FORCE

The MPL/MPK safety lever is ambidextrous and, when in the “S” position, locks the bolt either forward or to the rear. Thomas B. Nelson's *The World's Submachine Guns* explains that the MP SMG is full-auto-only so there are only two selector positions, “S” and “F.” However, the MPLs and MPKs I have handled and fired have had a “semi-auto” setting as well. Nelson was writing about early prototypes of the MP SMGs, which may have initially only featured the two settings.

According to Nelson, the MPL/MPK's stock could be folded to either the right or left side of the weapon. However, all of the production guns that I have encountered have a stock that folds only to the right. The ability to fold to either side would have been quite useful for security details, as the team leader, normally seated in the right front seat, could have the stock folded to the left, allowing him to quickly deploy it with his support hand (assuming he were right-handed) while exiting the vehicle. Other operators would also find the ability to deploy the stock from the left a bit faster. However, since the MPL/MPK, as produced, folded to the right, users adapted. I found it fastest for me to slap the stock with my shooting hand.

During World War II, the Germans had substantial experience in producing SMGs and assault rifles from stampings. This experience is carried over to the MP,

WALTHER MP SUBGUNS

which uses a stamping with an integral magazine housing for the receiver. The magazine is based on the proven Carl Gustaf design (Swedish K), which has a reputation for durability and reliability.

THE RIGHT TOOLS

The MPL/MPK did not achieve wide success, though there were some military and law enforcement sales. There were even a few sales of the MPL to the U.S. Armed Forces. The SEALs used some suppressed MPs in Vietnam. I have also read that some MPs were used on the Son Tay Raid. Originally, the Delta Force used the M3 Grease Gun, but after encountering the HK MP5 with Germany's GSG9 antiterrorist unit

but the MPL was prominently featured.

I served as the tactical adviser for National Geographic Channel's *Seconds From Disaster* on the Munich incident a few years ago. As part of the process I had a chance to talk with one of the German *Polizei* who had been part of the assault. In passing, we discussed the MPL. He informed me that they had felt outgunned since the terrorists had AK-47s. I mentioned that my experience has been that very few of the terrorists/insurgents/freedom fighters I've encountered actually had zeroed their AK-47s or practiced with them extensively; hence, at the ranges involved, I feel the assault team should have been able to engage effectively.

acquired from South Africa. However, Zimbabwe uses mostly AKs and other ComBloc weapons these days.

Other official and semi-official units around the world have used the MPK. I had contact with various Middle Eastern close-protection teams during the 1970s and 1980s that had MPKs. In that part of the world, Germans SMGs have always been popular.

HANDS ON

It's unclear how many MPLs and MPKs were produced. Based on my own experience, there seem to have been more MPKs, but that may just be those that I've encountered have been with agencies that want their SMGs



Walther designed the MP series for use with a range of tactical units. Here it is seen with an early prototype of a light for identifying threats in dark environments with limited visibility.

• • •

it adopted that weapon instead. The GSG9 had adopted the MP5 because it was the standard SMG in use with the West German Border Patrol—not the MPL/MPK. Reportedly, though, the Delta Force acquired some MPLs and MPKs during a transitional period between the M3 and the MP5.

Other government sales included those to German law enforcement agencies. Within Germany, the Navy adopted the MPL while various police forces adopted the MPL or MPK. The most well-known use of the Walther MP by German police was probably during the Munich Olympic hostage crisis. Members of the Munich police, armed with the MPL, attempted to infiltrate the scene of the hostage taking at the Olympic Village. Unfortunately, the area had not been cleared of news cameramen so the assault was televised and watched by the terrorists! It failed,

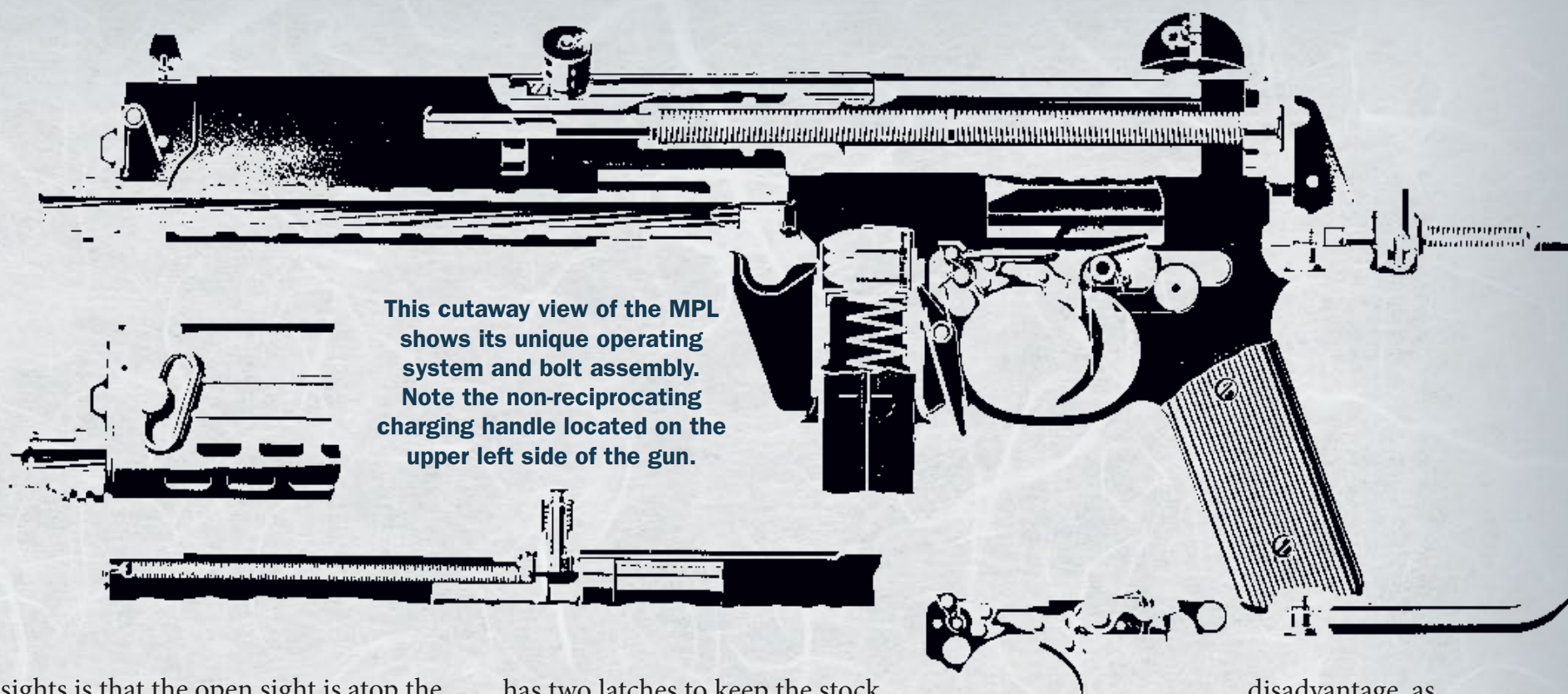
His reply was that they had qualified with the MPLs but rarely practiced with them. Basically, they were trained as patrol cops, not as a SWAT team. Because of the overall poor response to the terrorist attack, Germany formed its elite antiterrorist unit, the GSG9, the next year. The GSG9 adopted the HK MP5 and introduced it to many other antiterrorist units, thus helping it surpass the MPL/MPK within a few years.

Most of the other countries that adopted the MP chose the MPK version for its compactness. Among these were Brazil, Colombia and Venezuela. The Mexican and Portuguese navies adopted the MPL and used the SMG for many years. In fact, as of about 10 to 15 years ago, the Portuguese Marine Corps was still using the MPL. The South African Police used the MPL/MPK, but it is no longer a first-line weapon. Zimbabwe also had MPLs at one point, likely

as concealable as possible. I would estimate that I've fired the MPK at least three or four more times than the MPL. My estimate is that I've put about 600 to 750 rounds through the MPK and a couple of hundred through the MPL.

I have shot these Walthers enough to make some comments about their use. One positive comes after shooting the MPK, as the barrel and other parts may be quickly removed for easy cleaning. I have found the pistol grip comfortable, but the selector switch is hard to operate with fingers that aren't long. The selector operates with "safe" in the top position, "full auto" in the middle and "semi-auto" almost 180 degrees from safe. The latter requires a long push from full auto to semi, usually requiring the shooter to shift their grip on the shooting hand or using the support hand. Actually, though, the relatively low cyclic rate of the MPK allows firing of single shots or double-taps through trigger control after becoming familiar with the weapon.

I especially like the MPK's sights. I find the peep quite useful at 100 yards. An interesting aspect of the MPK's



This cutaway view of the MPL shows its unique operating system and bolt assembly. Note the non-reciprocating charging handle located on the upper left side of the gun.

sights is that the open sight is atop the peep sight and allows the head to be up for scanning an area while allowing quick engagement. The front post is narrow enough to allow good acquisition with either the open sight or the peep. The triggerguard is open enough to allow shooters to wear tactical or other light gloves.

I like the durability of the MPK's steel construction and shrouded sights; whether it's in the hands while exiting a vehicle or slung while moving through a building, the Walther submachine gun is likely to take some knocks. On the other hand, the steel stampings get very cold or very hot depending on the weather. The latter is also the case when the gun is fired on full auto. As a result, the MPK can be uncomfortable to use outdoors in some cases.

The MPK's wire skeleton stock has the usual problems with such stocks. It is not comfortable against the shoulder or the cheek, though the fact that the MPK fires the 9mm round makes it less uncomfortable than it would be if firing a more powerful round. When firing on full auto, the MPK is definitely uncomfortable and hard to control. Firing bursts helps a lot. Holding the MPK steady during full-auto fire is made more difficult by the necessity to grip the front of the magazine well with the support hand. Folding the stock takes some effort and the shooter must beware that he or she doesn't catch a finger. On the positive side, the MPK

has two latches to keep the stock solidly folded.

The magazine housing is not beveled to speed up loading in combat; this would be a desirable feature, especially at night. The magazine well is forward of the triggerguard as on other German SMGs. Given that the MPK began production after the Uzi was already on the market, this was a marketing disadvantage and a tactical disadvantage, as the ability to find the magazine well in the grip on the Uzi—using the hand-finds-hand system—makes the Uzi quick for combat reloads.

In fact, Germany produced the Uzi as the MP2 on license, one other reason why there were no major German military contracts for the MP. I don't consider the forward mag well a major



disadvantage, as most of the SMGs I used during the 1970s and 1980s have them in the same position. The

magazine release was usable but not especially ergonomic.

Evaluating the MPK has been a trip down memory lane for me. It's been a reminder of the days when my hair was still brown, my waist was 32 inches, I carried a Browning Hi-Power and I could work 12-hour shifts and still spend an hour or two working out in the gym. There is a tendency to compare the Walther MPK to the HK MP5, but I think that a more apt comparison is with other SMGs of the time, including the Uzi, the Beretta M12 and the Sterling, for example.

Despite the relative disadvantages of the MPK I've mentioned, when I was using it or training teams that used it, I was satisfied with it. I felt that if I had to bring it into action it would respond. It always proved reliable, which was a confidence builder.

I have to admit, too, that I always liked the MPK because it was a Walther. In fact, I carried a PPK as my backup gun during the years when I would have used the MPK. The MPK is rarely encountered today, but I would recommend that if the chance should arise to shoot one, take it. This design offers an interesting look at a very rare and intriguing German SMG. ■

Specifications:

WALTHER MPK/MPL

CALIBER:	9mm
BARREL:	6.8 inches (MPK), 10.3 inches (MPL)
OA LENGTH:	14.8-26 inches (MPK), 18.1-29.4 inches (MPL)
WEIGHT:	7.7 pounds (MPK), 8 pounds (MPL)
STOCK:	Folding
SIGHTS:	Front blade, rear notch
ACTION:	Blowback
FINISH:	Matte black
CAPACITY:	32+1



Preserving History

FULTON ARMORY brings battle classics like the M1 Garand and more back to life!

■ By Peter Suci

Gun designer Jean Cantius “John” Garand left a lasting legacy with the firearm that bears his name, the M1 Garand, the first truly successful semi-automatic rifle to be widely used in active military service. Clint McKee Sr., founder and owner of Fulton Armory in Savage, Maryland, is one of a very few armorers in the world who is helping ensure that this legacy lives on for future generations.

It might not seem that difficult a task considering the vast numbers of the semi-automatic firearm that are likely out there. All told, more than 6.25 million M1 Garands were produced between 1936 and 1957, yet it should be remembered that this was a gun designed for war—and wars tend to not be kind to equipment.

The Garand’s role in World War II, the Korean War and countless other conflicts is why it captured the imagination of history buffs, shooting enthusiasts and firearms collectors for decades. It has been an iconic firearm that has appeared in movies, TV shows and even video games. All this attention is why in recent years the price of an M1 has gone

up. But old firearms are like old cars: Preservation and even restoration are crucial to ensuring that this sought after item will be there in the future.

SURPLUS OBSESSION

While millions of Garands were produced for use in World War II and Korea, untold numbers were destroyed in the conflicts, and untold numbers were left behind or sold to America’s allies. The Civilian Marksmanship Program has helped ensure that vintage firearms such as the M1 remain accessible, but it is truly up to skilled craftsmen such as McKee who can keep the old guns shooting well into the 21st century and beyond.

McKee, along with Walt Kuleck, have authored three books, including *Complete Assembly Guides* for the AR-15, M14 and M1 Garand, which focus focus on their assembly and maintenance.

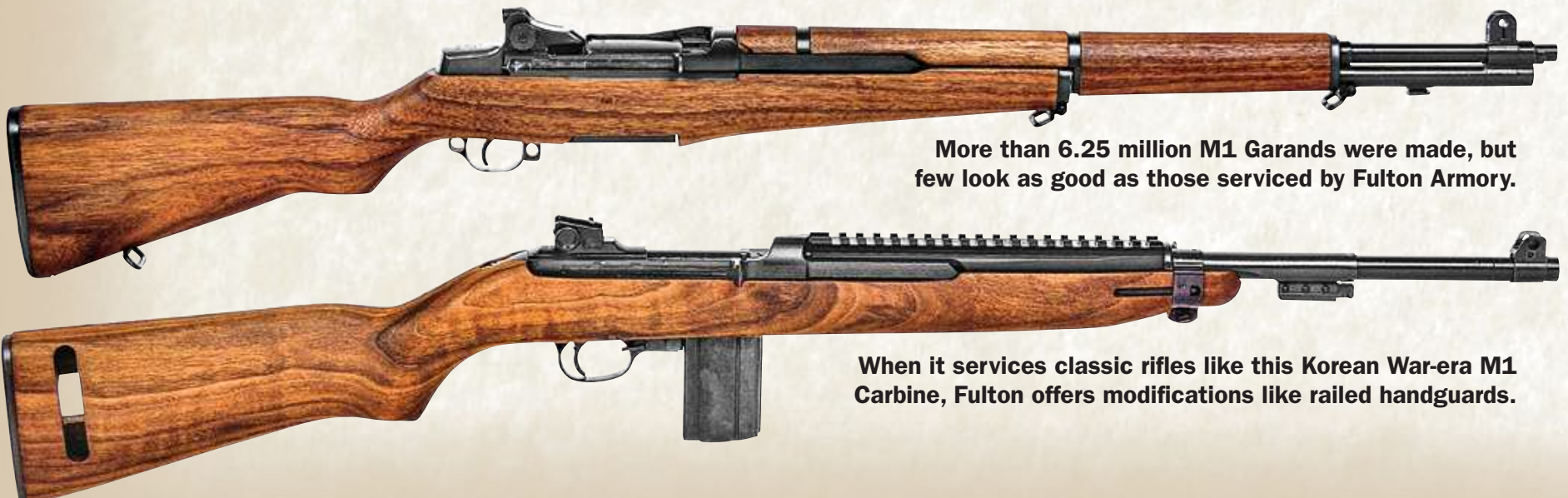
“I’m not much of a writer, but I was the technical guy in putting these together,” said McKee. “These were written in a way for someone who knows nothing but can start and build a complete rifle. At the same time, it reaches the other end and can help those who have worked on guns for a long time and learn something as well.”

McKee will admit he was not initially much of a “gun guy.” In fact, he came from an entirely different world of armored limousines, and he worked with the company that produced the modifications in the automobiles used by the Presidents of the United States going back to President Harry S. Truman. After a turn of events, he found himself in the military surplus business 30 years ago, and this was his first foray into the world of surplus firearms.

Just prior to starting Fulton Armory in May 1987, McKee imported thousands of M14 parts sets, sans receivers, from Israel in an earlier venture, which, sadly, he left for professional reasons.

It was a life-changing moment, and McKee said he quickly fell in love with the rifle. “It was true craftsmanship, and I loved the mechanics, the upswept

“...it is truly up to skilled craftsmen such as McKee who can keep the old guns shooting well into the 21st century and beyond.”



More than 6.25 million M1 Garands were made, but few look as good as those serviced by Fulton Armory.

When it services classic rifles like this Korean War-era M1 Carbine, Fulton offers modifications like railed handguards.



Fulton Armory also offers semi-automatic variants of the M14 rifle, with optional modern enhancements.

wood,” he commented. “It was real American skill and design. It was a beautiful piece of equipment.”

At the time, McKee was essentially unemployed, his wife was expecting their first baby and it was probably the worst time to start a business doing something he really didn’t know a lot about. But he borrowed \$10,000 from his mother and started with 100 M14 parts sets, then began to build semi-auto M14s on newly manufactured receivers.

“How did I make it? I have no idea. It is a labor of love, and when you work 18 hours a day, seven days a week, you will succeed,” he proudly declared.

Rebuilding M14s led him to the WWII-era Garand, which McKee points out is basically the parent of the M14. Today, Fulton specializes in all five U.S.-issued, gas-operated rifles of the 20th century: the M1 Garand, M1 Carbine, M14, AR-15/M16 and the .308 M110.

For this self-declared “best unknown armory” in the United States, it is about working on the gas-operated firearms of the mid-20th century, but more importantly ensuring that these old guns will get new life as well.

CLASSIC REBUILD

Fulton Armory is not about making replicas of old guns. McKee points out that the firearms his team produces are built from original parts, including those from WWII and Korea, “parts that had been there and have provenance.”

He said that his company is as unique in its passion to working on the rifles as comprehensively as they do. For McKee, it is in essence resurrecting old guns that have elegant wood designs and are basically that classic combination of lock, stock and barrel with hot steel.

This includes servicing an old gun to diagnostics to complete rebuilding. Fulton Armory, which remains very



The staff of Fulton Armory includes professional armorers who know their way around the classic gas-operated battle rifles of the 20th century.

small with just six employees, isn’t looking to become a larger business. Everything is done the old way, and as much is done by hand as possible with no mass production. This includes just two people who do the critical building on every gun.

“Were not interested in being the biggest,” says McKee. “We just want to be the best in the world on the five finest rifle systems ever created. That said, I’m hoping that these younger guys will be able to run this place after I’m gone. These guns are important to us, just as they were important to the soldiers who carried them, and I hope this knowledge is preserved so that others can feel that way about the guns in 100 years.”

CUSTOM GRADE

McKee and his team aren’t really traditional gunsmiths. Instead, Fulton Armory is truly staffed by a team of professional armorers, and this is an important distinction as there are increasingly fewer armorers.

“There is no good way to say it, but it comes down to this: Gunsmiths know a lot, but we’re not gunsmiths,”

McKee said bluntly. “Unless you have an intimate familiarity with these rifles, you wouldn’t catch some of the issues that are out there, especially as so many rifles have been poorly rebuilt over the years. There are a lot of old guns that are still very fixable and restorable.”

For one, the shop won’t take in any other old guns, unless it is one of the aforementioned gas-operated rifles of the 20th century. “We have customers begging us to work on their guns,” he said. “We just won’t do that. We don’t have the tools, the gauging. We can’t take on that business. It might be as simple as putting a scope on a modern hunting rifle, but I don’t do it because I don’t really know how to do it.”

Currently, Fulton Armory houses thousands of parts, but McKee is always buying more when the opportunity arises, as he quickly noted that surplus is only sporadically available. Yet it isn’t just the parts that are so crucial in ensuring that these guns will be around for another 100-plus years in shooting condition, it is the knowledge. For more information, visit fulton-armory.com or call 301-490-9485. ■



BERETTA 92S 9MM

A rare Italian-made variant of the classic U.S. military 9x19mm battle pistol!

By Michael O. Humphries

• PHOTOS BY STEVE WOODS •

THE BERETTA 92 SERIES is an undeniable classic, and its intriguing story goes back much further than simply its adoption by the U.S. military in 1985. In fact, the 92 has a lineage that goes back directly to 1951 and the introduction of Beretta's Model 951. While Beretta had an extensive line of popular and effective small-caliber pistols, there was nothing in its line that would fit the role of a large, duty-style combat pistol. The 951 was developed as an answer to this situation and was chambered for the 9x19mm (9mm) cartridge.

The single-action (SA) 9mm 951 bore many hallmark features of Beretta pistols—most notably its open-slide design. To address the more powerful 9mm chambering, the production model of the 951 featured a modified Walther P.38-style locking system in which a swinging block located under the barrel locks into recesses cut into the slide. Unlike the Browning-style link system where the barrel swings downward out of engagement with the slide during cycling, the barrel of the 951 remains in horizontal alignment with the target during the entire recoil cycle. This is the system you see in modern Beretta 92 pistols through to today.

The 951 proved to be an unquestionable success with it being adopted by elements of the Italian military as well as the military services of Egypt and Israel, to name just a few. However, while unquestionably an advanced and capable gun at the time of its appearance in the 1950s, by the 1970s Beretta began to look at updating the design. The 951's SA operation and single-column magazine were becoming a bit dated and Beretta wanted to incorporate a double-action (DA) trigger system and a double-column magazine, among other enhancements. To address this, Beretta's engineers took a fresh look at the 951 design.



FAMILIAR, BUT NEW

The result of this effort was the Model 92, a large-framed pistol in 9mm introduced in 1976 that shared a lot of visual cues with the 951, but featured numerous enhancements and updates. It incorporated increased ammunition capacity through the use of a double-column magazine and the application of a double-action/single-action (DA/SA) system of trigger operation. And, at the time of its introduction, this was a revolutionary combination of features (trail-blazed by the equally influential Czech CZ 75 series).



The 92S is an interesting variant of the classic Model 92 series featuring a non-ambidextrous, slide-mounted safety and a unique magazine release located at the rear base of the left grip panel.

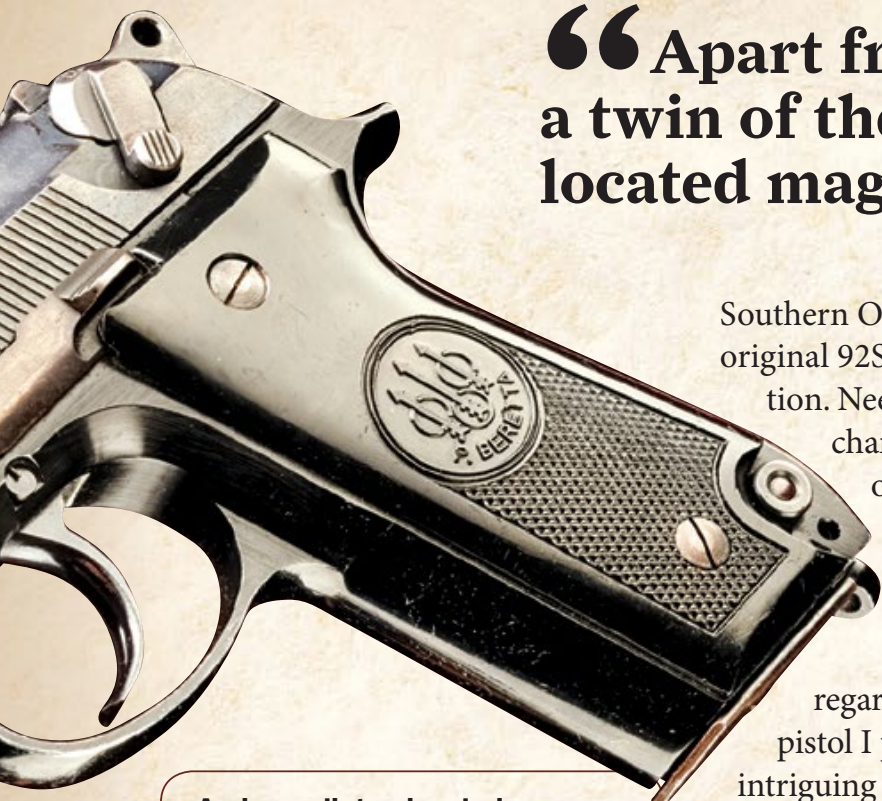
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“The first significant change to the 92 platform came...with the 92S, an update that was related to the design of the safety.”

Externally, the new Model 92 featured classic Beretta lines—namely a gracefully curved and shaped grip area and the open-topped slide design for which the company was known. Controls of the earliest Model 92 pistols consisted of a non-ambidextrous, frame-mounted safety similar in location and design to that of the 1911. The slide release was equally traditional in its location and design. However, the magazine release’s location was similar to that of the 951 (and many other earlier Beretta designs, excluding, of course, the Models 81 and 84 in .32 ACP and .380 ACP respectively, which featured DA/SA

triggers, double-column magazines and telegraphed what was to come with the new Model 92).

The 92’s magazine release was located at the rear base of the left-side grip panel. While this location was common on many of Beretta’s pistols, it is unique to say the least to many American shooters. Rather than using the thumb of the shooting hand to operate the magazine release behind the triggerguard, on the 92S you would be best off bringing up your support hand and using its thumb to press the release while cupping that hand around the magazine to catch it as it is released (or let it drop free if so desired).



An immediate visual giveaway of the Beretta 92S' unique configuration is the magazine release button, which is located near the rear base of the grip.

“Apart from the new safety, the 92S was a twin of the earlier 92—down to the uniquely located magazine release.”

Southern Ohio Gun advertisement for original 92S pistols in excellent condition. Needless to say, I jumped at the chance to get one and put in an order immediately. The pistols were described as being “military and state police” pistols from an arsenal in Italy. An inquiry to Beretta regarding the lineage of the pistol I purchased resulted in some intriguing information from Jarno Antonelli, a defence and law enforcement communication specialist with the Beretta marketing department in Italy.

“It was in 1975 when the Italian National Police [*Corpo delle Guardie di Pubblica Sicurezza*, at that time and until 1982 a military institution] decided to adopt a new pistol in order to standardize its weapons fleet,” he explained. “The situation at that time was a bit confused as the majority of police units were equipped with the World War II-era Beretta 34 in .380, supplied to the Italian Police until 1967. In addition, some units were equipped with the more powerful 9x19mm Beretta Model 1951, a single action with a falling block locking mechanism.”

The Model 92 effectively and capably addressed the requirements of the

Specifications:

Beretta Model 92S

CALIBER:	9mm
BARREL:	4.7 inches
OA LENGTH:	8.25 inches
WEIGHT:	33 ounces (empty)
GRIPS:	Plastic
SIGHTS:	Fixed
ACTION:	DA/SA
FINISH:	Blued
CAPACITY:	15+1

Italian National Police. However, the group made some additional design change requests. Antonelli explained, “While the 92 was well accepted, some concerns were raised with the safety arrangements. Therefore, a hammer release lever was introduced to drop the hammer in full safe condition.” He went on to note, “The head of the technical commission of the police at that time was Colonel Sposetti. Jokes were made at that time when the ‘S’ model was introduced that the ‘S’ stood for his name.” The police granted the first contract for the pistol to Beretta in 1977.

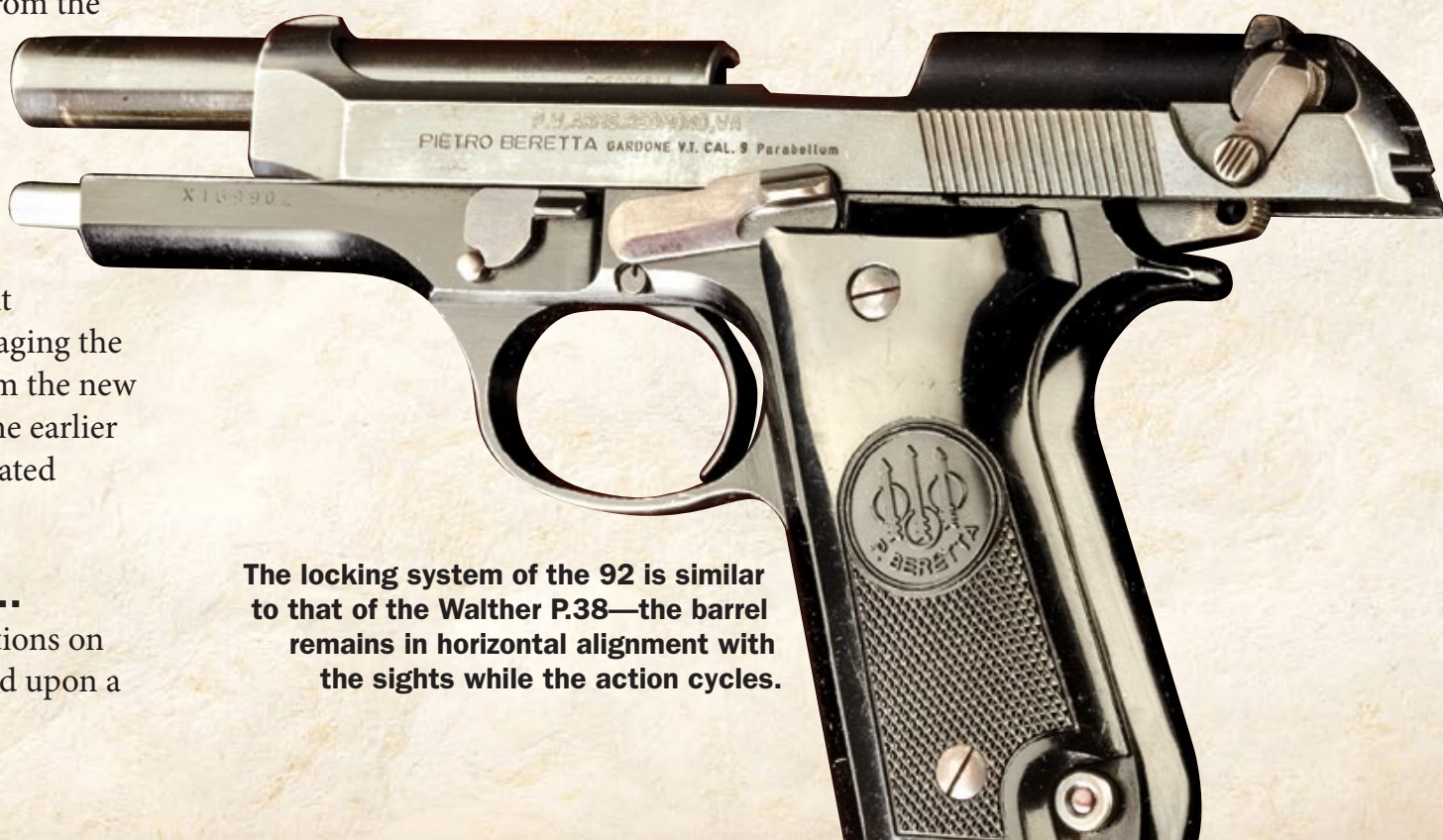
In regards to the pistol I bought, Mr. Antonelli did some further research and advised me that he had found “that 92S pistols had been sold in June 2014 by

The 92 represented the beginning of what would become one of the most popular and well-known pistol designs of the world. Despite its low-profile sights, wooden grip panels, rounded triggerguard and frame-mounted safety, anyone looking at it today would immediately recognize its familial connection with any contemporary 92-based pistol. And, as the years passed, Beretta would update and modify the design further.

The first significant change to the 92 platform came shortly thereafter with the 92S, an update that was related to the design of the safety. On the 92S, the safety was removed from the frame and moved up to a slide-mounted location. The single-sided, non-ambidextrous safety also incorporated a decocking function. When swept down, the hammer would drop, but it would be prevented from engaging the firing pin assembly. Apart from the new safety, the 92S was a twin of the earlier 92—down to the uniquely located magazine release.

JUST ONE MORE THING...

While checking out the options on the surplus market, I happened upon a

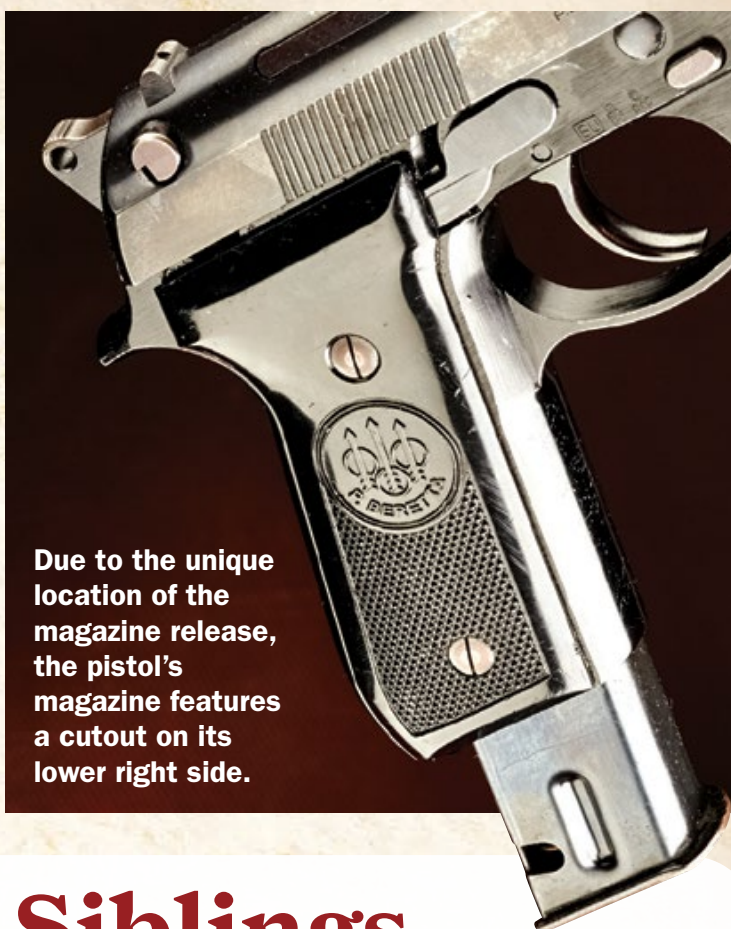


The locking system of the 92 is similar to that of the Walther P38—the barrel remains in horizontal alignment with the sights while the action cycles.

The non-ambidextrous safety on the slide of the 92S is lower profile than those of current-production 92 pistols.



Due to the unique location of the magazine release, the pistol's magazine features a cutout on its lower right side.



Beretta to a sister company in Switzerland. They were old Model 92S pistols that originally belonged to the Ministry of Interior in Italy.” Although he could not access the serial-number field to verify, it seems like a reasonable assumption this was my pistol’s source.

HANDS ON

I was very impressed with the pistol as soon as I took it out of the box. As compared the matte black finish of current 92 Berettas available, this pistol features a high-polish blue on the steel parts and a matching gloss anodized black on the alloy frame. I also noted the early-era-style rounded triggerguard (as opposed the squared-off style on most current 92s). One area where this older pistol is at a loss compared to its younger brethren is in its sights. They are plain, black and low profile, with the front sight blade machined into the slide. As compared to modern-day sights, these are a bit hard to pick up.

I have always been a fan of the 92 pistol’s ergonomics, and the 92S was no disappointment. For me, the guns simply just point “right,” as though they are an extension of my hand. As an interesting side note, the unique magazine release location necessitates a corresponding cutout on the lower right-hand side of the magazine body. Need a spare magazine for your 92S? No worries, Beretta still cuts this notch

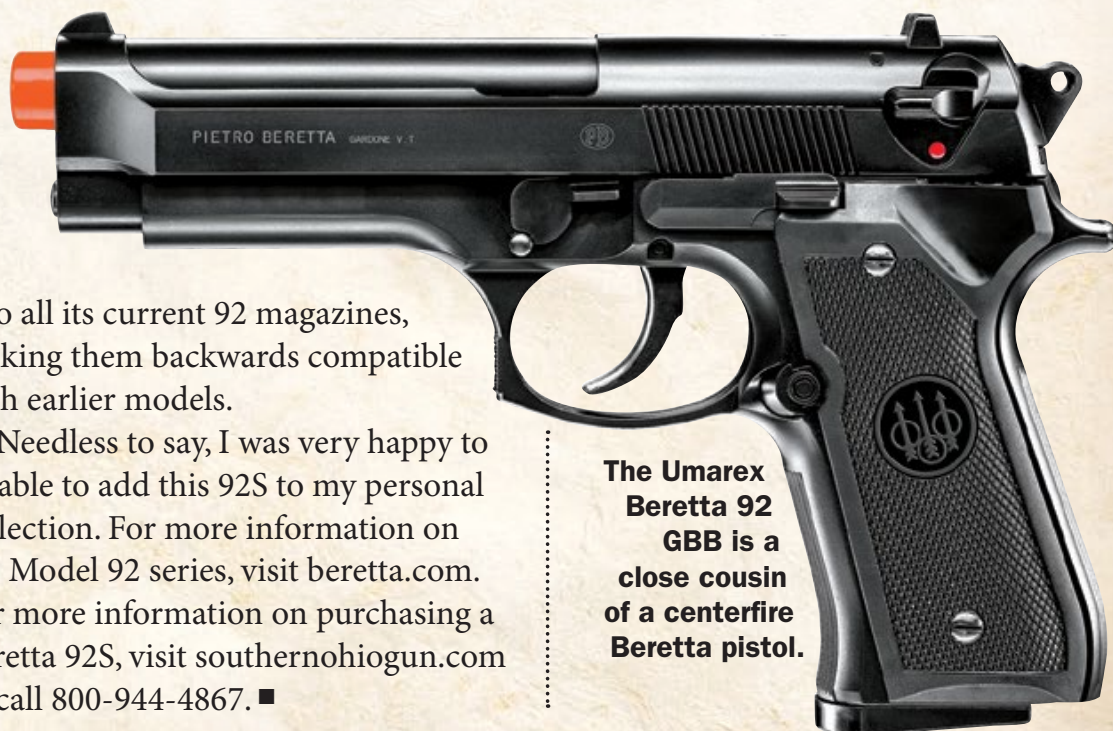
Similar Siblings

Umarex’s gas blowback pistols deliver convincing performance and loads of fun! ■ By Michael O. Humphries

During a recent visit to the Umarex USA headquarters in Fort Smith, Arkansas, I had a chance to go hands-on with some of the company’s products at its indoor range. Of all the variants that I tried, I was most drawn to the gas blowback (GBB) airsoft pistols. Similar in weight to their centerfire counterparts, these pistols wowed me with their realistic operation and the cycling of the slide during firing. The heart of the GBB system is the gas-driven nature of the design. Gas is filled into an internal “tank” housed inside the detachable magazines.

When the airsoft pistol is fired, the pressurized gas drives not only the plastic 6mm airsoft pellet forward, but also cycles the slide back.

The result is a reasonable approximation of recoil, and a great way to practice trigger control, drawing and firing, etc. When I got to fire them, everything just seemed “right” and familiar on them. I instantly recognized their potential for low-cost training for your selected carry gun. If you are looking for a fun, cheap way to get in some trigger time, I recommend you check them out. (umarexusa.com)



The Umarex Beretta 92 GBB is a close cousin of a centerfire Beretta pistol.

into all its current 92 magazines, making them backwards compatible with earlier models.

Needless to say, I was very happy to be able to add this 92S to my personal collection. For more information on the Model 92 series, visit beretta.com. For more information on purchasing a Beretta 92S, visit southernohiogun.com or call 800-944-4867. ■

FORGOTTEN WARRIOR



The rare 12-gauge Stevens 77E,
an unsung hero of close-range combat
in the jungles of Vietnam!

By Leroy Thompson

PHOTOS BY KEN MACSWAN



NARA Photo

“Despite the fact that the Stevens 77E was one of the more widely used shotguns of the Vietnam War, it is little known outside the ranks of U.S. shotgun collectors...”

U.S. Army MPs armed with Stevens 77E shotguns transfer Viet Cong prisoners.

The Vietnam War was the first jungle conflict fought by the U.S. armed forces since World War II in the Pacific. As a result, there had been little acquisition of new shotguns during the intervening 20 years.

The U.S. Army and U.S. Marine Corps entered the Vietnam conflict with the same shotguns that had seen service in World War II—the Winchester Model 12, the Winchester Model 97, the Stevens 520-30 and the Stevens 620A trench and riot guns. Many had been arsenal refurbished after World War II. Most popular was the Model 12 Winchester, especially with the Marines. Some other riot guns were acquired for issuance to the Vietnamese, including the Ithaca Model 37. Additionally, some Ithaca Model 37 riot guns and a few trench models were acquired by the U.S. Navy for use by riverine forces and SEALs.

BATTLEFIELD 12 GAUGE

Early in the Vietnam War, the Stevens Arms Company received orders for military Model 77E riot guns. They saw wide usage in Vietnam, especially among MPs, though with



NARA Photo

infantry and other units as well. Some also went to the Vietnamese. Reportedly, 60,920 Model 77E riot guns were delivered to the U.S. Armed Forces or allies beginning in 1963. According to U.S. military shotgun collector Jeff Moeller, factory records indicate 77E production ended in early 1964, rather than later as is sometimes cited. The first delivery of the initial contract took place on May 24, 1963 and the last on December 31, 1963 for a total of 58,940. A supplemental contact resulted in the delivery of 1,980 on February 14, 1964.

MPs guarding the recently bombed Victoria Hotel in Saigon on April 1, 1966. One of the MPs is carrying a Stevens Model 77E.

• • •

Four companies bid for the contract, with Savage Stevens being the lowest at \$31.50 per shotgun, followed by High Standard at \$33.25, Ithaca at \$38.11 and Remington at \$55.43. Stevens was actually overbid on the shotguns, as their actual charge to the government was \$33.51 each. The contract also included a cleaning rod to be supplied with each shotgun. To illustrate how closely Stevens watched their costs, the rubber recoil pads were produced by Ohio Rubber Company and have distinctive “T” cutouts, as this saved one cent per recoil pad over a solid rubber pad.

One advantage of the 77E was that it was inexpensive. Because the original intent was to provide the 77E for Vietnamese forces, the stocks were reduced by about 0.62 inches, making length of pull 13 inches. Fortunately, this allowed U.S. troops to use them readily while wearing flak jackets, but, in general, U.S. troops did not like the shorter stock. Unlike most U.S. GI shotguns, the 77E was fitted with a thick recoil pad. This was in deference to the smaller Vietnamese as well. In combat, the stock proved the weakest part of the 77E, especially if used to butt-stroke an enemy. As a result, armorers often had to replace stocks. This problem also resulted in a large number of spare stocks being produced with recoil pads.





The Model 77E is recognizable for its blackened stock as well as its distinctive recoil pad with the T-shaped cutouts. Few U.S. military shotguns were supplied with recoil pads at the time.

Some of these replacement stocks were longer than the originals, probably because repairs were being made for U.S. units with U.S.-sized troops. For years after the Vietnam War ended, these stocks were common on the surplus market, but they have gotten much scarcer now, as I learned when I was searching recently for one for my 77E. Another problem mentioned by armorers occurred with the triggerguard, which was made of alloy and often broke. Apparently, however, there were no replacement triggerguards available in the supply system. Overall, compared to the Model 12 Winchester or the Ithaca Model 37, the 77E was not considered as sturdy for combat, though it saw quite a bit.

INTO THE ACTION

Martial 77E shotguns are readily identifiable by the Parkerized receiver and barrel; the “U.S.” stamped on the right side of the receiver just behind the barrel; the “P” proof marks on top of the receiver and barrel; a 20-inch, cylinder-bored barrel with a bead sight; a black, stained stock and forearm; a rubber recoil pad; and sling swivels. Often, Vietnam 77Es will be encountered with

most of the black stain worn off of the stock and forearm. Note also that there were two types of front sling swivels—either attached to a barrel band (earlier type) or attached to the magazine plug platform. Reportedly, a few 77Es were fitted experimentally with bayonet adaptors, though it does not appear any were actually issued to troops. There may have been some 77Es that had bayonet lugs added by the Vietnamese.

The 77E riot guns had a trigger disconnect, which meant that unlike the Ithaca 37s in use by the SEALs, the trigger could not be held back while the slide action was cycled to fire rounds quickly. Still, the 77E could be fired

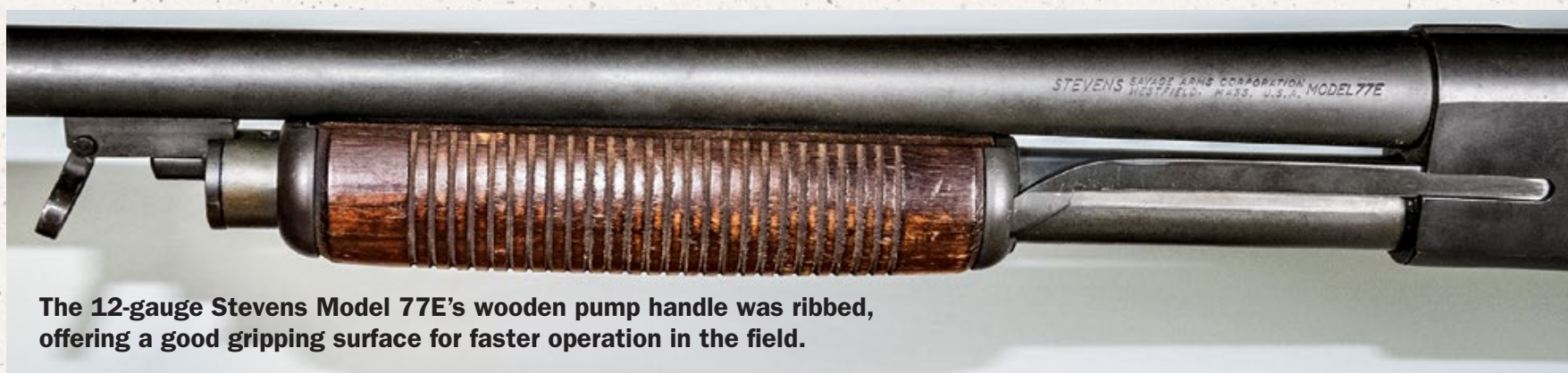
very quickly, and users learned to feed additional shells whenever there was a lull in the fighting. In fact, one study showed that the shotgun had a higher kill ratio than the M16. Arguably, the fact that the shotgun was normally used at closer range may have contributed to this. The 77E had a cross-bolt safety at the rear of the triggerguard and a slide/bolt release on the left side in front of the triggerguard. This location was actually more ergonomic than the location of the slide/bolt release on many other combat shotguns.

Though originally intended primarily for the Vietnamese, the need for shotguns by U.S. troops resulted in thousands being issued. As mentioned earlier, the 77E saw a lot of service with U.S. Army MPs. Those assigned to convoy duty often carried the Stevens, as did those assigned to guard communist prisoners, HQs or other installations. Some patrol MPs in Saigon and elsewhere also carried the 77E.

During the Tet Offensive, the 77E and other shotguns would have been invaluable in clearing VC from buildings. At least some Army and USMC infantrymen assigned to point duty carried the 77E, and the 77E and



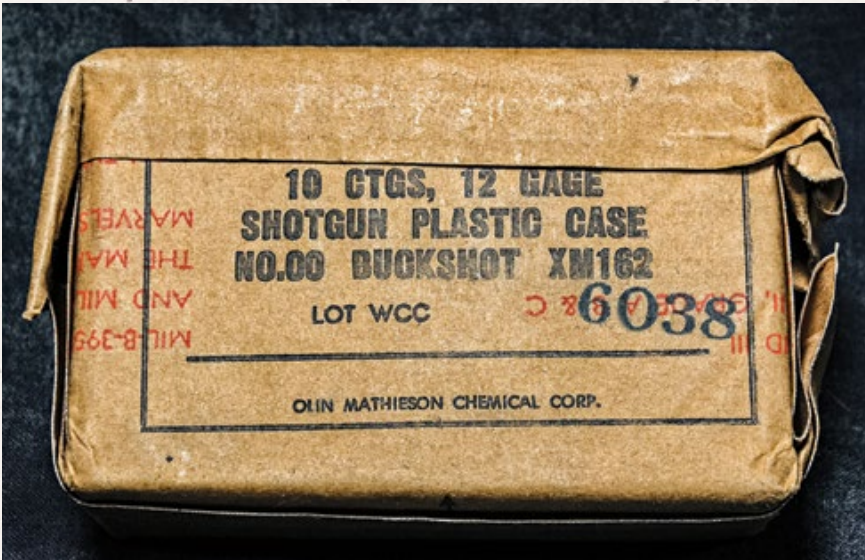
LEFT: Here you can see the 77E's aluminum triggerguard, bolt release and crossbolt safety, all within easy reach. **RIGHT:** The front sling swivel interfaces with the front of the tubular magazine, but it was attached directly to the barrel on some models.



The 12-gauge Stevens Model 77E's wooden pump handle was ribbed, offering a good gripping surface for faster operation in the field.

This Vietnam-era box of 12-gauge, 00 buckshot from Olin Mathieson held 10 rounds of ammunition. The XM162 load was the most widely used in combat.

• • •



other shotguns were used for clearing VC bunkers or tunnels, though most tunnels were so constricted that only handguns could be used. Both MPs and other dog handlers used the 77E as an alternative to the M16 or, later, the XM177. The 77E or other shotguns would have been most useful on convoy duty when moving through villages or other areas where an attack might be launched at close range.

COMBAT LOADS

Early in the Vietnam conflict, M19 brass 00 buckshot loads left over from World War II were still in use, but as these ran out, two types were acquired: XM162 00 buckshot and XM257 #4 buckshot. The XM162 load was the most widely used. Both types were packed in cardboard boxes holding 10 rounds then wrapped in foil wrappers to inhibit moisture. Both the cardboard boxes and the wrappers were marked with the designation of the shells—"10 CTGS, 12 Gage SHOTGUN PLASTIC CASE NO. 00 BUCKSHOT XM162"—and a lot number. XM257 boxes and wrappers were similarly marked but with the XM257 designation and #4 buckshot. Model 77Es would have likely been used at some point to fire the flechette rounds that were tested in Vietnam during 1967 and 1968. These aerodynamic projectiles offered longer range but less lethality than buckshot.

RARE COLLECTIBLE

Though the 77E undoubtedly saw combat, I cannot remember reading any narratives of its use. In his excellent *Complete Guide To United States Military*

Specifications:

Stevens Model 77E

GAUGE:	12
BARREL:	19.9 inches
OA LENGTH:	38.5 inches
WEIGHT:	6.8 pounds (empty)
STOCK:	Wood
SIGHTS:	Front bead
ACTION:	Pump
FINISH:	Matte black
CAPACITY:	4+1

Shotguns, Bruce Canfield mentions that U.S. Marine 2nd Lt. John Bobo used a 77E in winning his Congressional Medal of Honor on March 30, 1967, in Quang Tri Province. Although the Stevens shotgun is not mentioned in Bobo’s CMH citation, it is worth quoting anyway:

“Citation: For conspicuous gallantry and intrepidity at the risk of his life above and beyond the call of duty. Company 1 was establishing night ambush sites when the command group was attacked by a reinforced North Vietnamese company supported by heavy automatic weapons and mortar fire. Second Lt. Bobo immediately organized a hasty defense and moved from position to position encouraging the outnumbered Marines despite the murderous enemy fire. Recovering a rocket launcher from among the friendly casualties, he organized a new launcher team and directed its fire into the enemy machine gun positions. When an exploding enemy mortar round severed 2nd Lt. Bobo’s right leg below the knee, he refused to be evacuated and

insisted upon being placed in a firing position to cover the movement of the command group to a better location. With a web belt around his leg serving as a tourniquet and with his leg jammed into the dirt to curtain (sic) the bleeding, he remained in this position and delivered devastating fire into the ranks of the enemy attempting to overrun the Marines. Second Lt. Bobo was mortally wounded while firing his weapon into the main point of the enemy attack but his valiant spirit inspired his men to heroic efforts, and his tenacious stand enabled the command group to gain a protective position where it repulsed the enemy onslaught. Second Lt. Bobo’s superb leadership, dauntless courage, and bold initiative reflected great credit upon himself and upheld the highest traditions of the Marine Corps and the U.S. Naval Service. He gallantly gave his life for his country.”

It can be deduced that Bobo used the shotgun effectively in firing into the enemy attempting to overrun the position, as the shotgun would have been very effective at close range against a mass attack.

Despite the fact that the Stevens 77E was one of the more widely used shotguns of the Vietnam War, it is little known outside the ranks of U.S. shotgun collectors or weapons historians. It isn’t as “sexy” as the trench guns that still saw action, nor as well known as the Ithaca Model 37s used by the SEALs or the Winchester Model 12s used by the Marines. The Stevens Model 77E is also one of the toughest U.S. military shotguns to find.

When the United States pulled out of Vietnam, most Model 77Es were left behind. Some did remain in the U.S. or return with troops redeploying, but unlike earlier martial shotguns they weren’t sold off as surplus.

Most of those that do turn up were supplied by the Department of Defense to police departments, which later sold or traded them. These weapons make great Vietnam collectibles or additions to U.S. shotgun collections, but count on paying up to 60 times what they originally cost the U.S. government if one happens to turn up. ■



WINTER WAR FIGHTER

Finland's MOSIN-NAGANT M/28-30—a WWII-era equalizer!

By Leroy Thompson • PHOTOS BY KEN MACSWAN

During the Winter War of 1939/1940, Finland heroically fought the forces of the Soviet Union in a David-versus-Goliath struggle that lasted about 100 days. Though the Finns eventually lost about 11 percent of their territory to the Soviet Union, they inflicted 323,000 casualties on the Soviets while suffering only 70,000 casualties themselves. Of course, for a small country that was a lot of casualties. As a result of Finland's tenacity and courage during the Winter War, the reputation of the Finns around the world was enhanced, while the Soviet's poor performance in combat may have contributed to Hitler's decision to invade the Soviet Union less than a year and a half later.

Finland's greatest asset during the Winter War was a large cadre of citizen soldiers who combined their skills as skiers, woodsmen and riflemen to ambush and carry out hit-and-run attacks on the Soviets. The principal weapons for the Finnish raiders were the Suomi submachine gun and the Finnish versions of the Mosin-Nagant rifle, chambered for the Finnish 7.62x53R round, which is virtually identical to the Russian 7.62x54R round used in their version of the Mosin-Nagant.

Originally, Finland had a large number of Soviet Mosin-Nagant M/91 rifles, which were in military arms depots when they achieved their independence from Russia in December 1917. Within a few years, however, the Finns would begin producing Mosin-Nagant rifles





With their white winter camouflage and accurate Mosin-Nagant rifles, this photo illustrates why the Russians considered the Finns “white death.”

SA-Kuva Photo

at SAKO, Tikka and Valmet, three arms producers that remain famous today for high-quality rifles.

The first large-scale upgrade of Finnish Mosin-Nagant rifles was the M/24 rifle for the Finnish Civil Guard. The Finnish Civil Guard (the *Suojeluskunta*) fulfilled a function similar to the U.S. National Guard. It was composed of volunteers, many of whom were outdoorsmen, hunters and shooters. They were separate from the Finnish Army, which was composed primarily of conscripts. Civil Guard members trained frequently and realistically. So much stress was put on marksmanship that the Civil Guard actually owned the Sako gun works. Most who have studied the Winter War believe that the Civil Guard was the most important element

early in the conflict to slow the Russian advance. Their M/24 rifles used German barrels from Venus Arms, or barrels purchased from SIG in Switzerland. These rifles are often referred to as the “Lotta Rifle” after Lotta Svärd, the women’s auxiliary of the Civil Guard, which helped raise the money for the rifle upgrades.

Next, the Finns reworked the M1891 Mosin-Nagant by retaining the receiver and magazine, but using a shorter, heavier barrel, improved sights, an improved bolt and new barrel bands, among other changes. After problems arose with the stock breaking when using the bayonet, the stocks were also modified. An interesting point is that many Finn soldiers didn’t like the bayonet, but preferred to use their traditional *puukko* knives for

The Finnish M/28-30 in 7.62x53R was a highly durable bolt-action sniper rifle made with a high-quality barrel and a stock made of Arctic birch, which was not susceptible to warping in the extreme cold.

“The principal weapons for the Finnish raiders were the Suomi submachine gun and the Finnish versions of the Mosin-Nagant rifle.”

close combat. The current bayonet for the Valmet M/76 rifle is actually a knife bayonet of traditional style. A shortened cavalry version, the M/27rv, was also produced in limited numbers. Very similar to the M/27 was the M/28, which had a different barrel band and improved trigger. Initially, M/28 barrels were purchased from SIG, but later they were produced by Tikka and SAKO. All of the rifles, however, were assembled at SAKO. The major criticism of the M/28 was that it retained the Russian “Konovalov” rear sight, which Finnish troops did not like. This is one of the primary reasons for the development of the M/28-30.

RIFLE DETAILS

The M/28-30 is generally considered the best of the Finnish Mosin-Nagants and the rifle focused on in this article. Known for its accuracy, the M/28-30 had an improved rear sight, a front sight adjustable for windage, a coiled trigger spring to minimize pre-travel, and magazines designed to prevent jamming due to the rimmed cartridges interlocking. The new front sight retained the protective ears used on the M/28, which resulted in Finnish troops referring to them as “*Pystykorva*” rifles; this translates as “Spitz dog ears” as they thought the ears resembled those of the Spitz dogs, which were popular in Finland. This front sight did not require a special tool for adjustment as it used standard screws. Another aid to accuracy was the addition of an aluminum sleeve in the forend of the handguard to act as a heat shield.

This sleeve also made contact between barrel and stock more consistent and eliminated some of the adverse affects on the rifle’s harmonics. Basically, it enhanced the performance for greater accuracy. By the time production of the M/28-30 rifles began, Finland was producing its own quality steel for barrels from the Lokomo steel works. Stocks were of Arctic birch, which was not susceptible to warping in the extreme cold encountered during the Finnish winter. The first M/28-

30 rifles incorporating new materials and improvements came off the SAKO assembly line in April 1934.

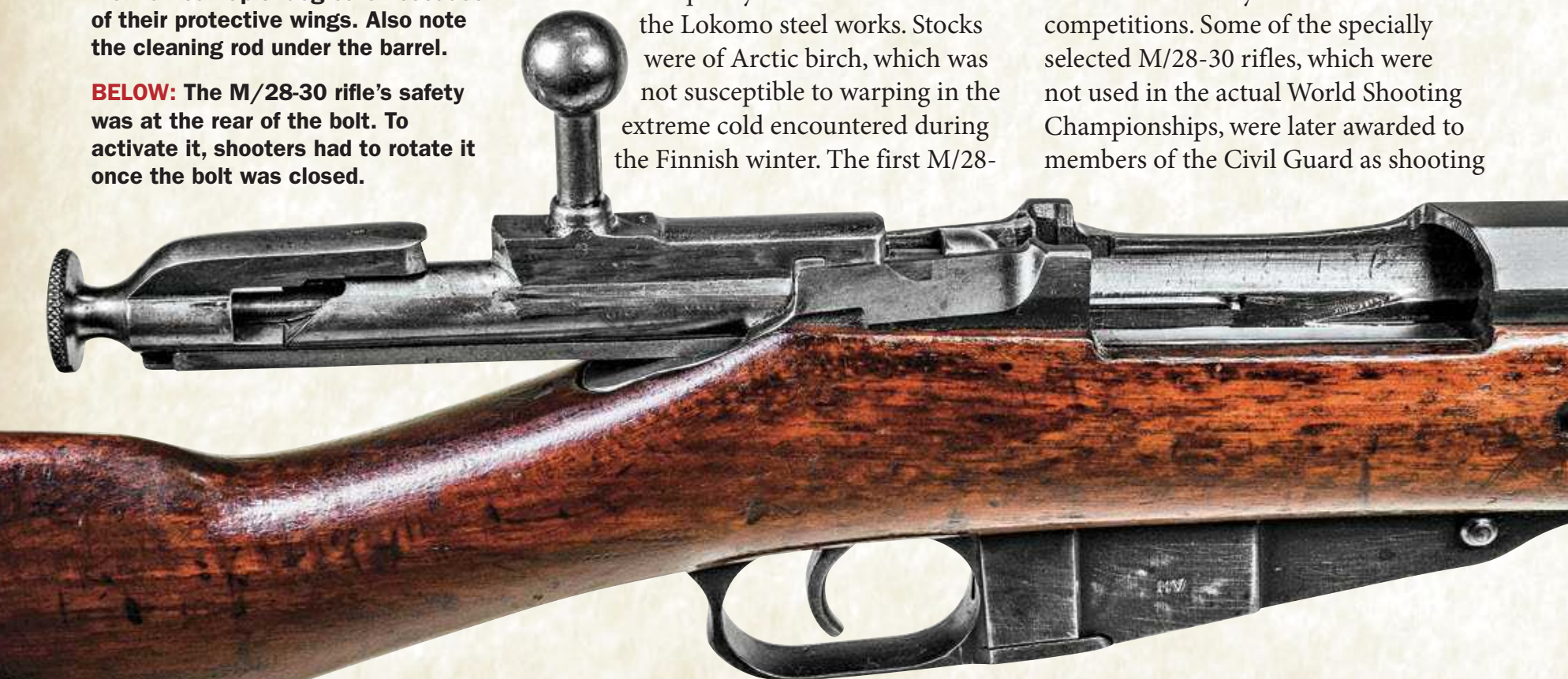
COMPETITION USE

Prior to the Winter War, the M/28-30 was a popular competition rifle with the Civil Guard, and it was also used by famed Finnish sniper Simo Hayha, without a scope, for many of his 505 confirmed kills during the Winter War. However, the M/28-30 was used as the basis for a Civil Guard sniping rifle, the M/33, which mounted the German Bush Visar 4.5x Dr. Zf104 scope. The Civil Guard developed a special curved stripper clip that bent around the scope to allow rapid magazine loading. The M/28-30 was deemed accurate enough that 440 of them were manufactured by SAKO for use in the 1937 World Shooting Championships in Helsinki, in which the Finns won the most medals. The last pre-World War II competition was held in Lucerne (with a couple of events held in Germany) and was won by Germany. After World War II, however, the Finns once again proved their marksmanship, winning the 1948 competition in Buenos Aires. Note that traditionally the service rifle of the host country was used for these competitions. Some of the specially selected M/28-30 rifles, which were not used in the actual World Shooting Championships, were later awarded to members of the Civil Guard as shooting



ABOVE: The front sights were nicknamed “Spitz dog ears” because of their protective wings. Also note the cleaning rod under the barrel.

BELOW: The M/28-30 rifle’s safety was at the rear of the bolt. To activate it, shooters had to rotate it once the bolt was closed.





Flipped up and ready to use, the ladder-style rear sight (left) of the M/28-30 was known to be accurate throughout its range of adjustments. The rifles were stamped on top (right), between the action and rear sight. This model was made in 1936.

prizes and saw action in the Winter War. Unlike many military rifles at that time, the rear sight of the M/28-30 was known to be accurate throughout its range of adjustments.

DESIGN VARIATIONS

There were other Finnish versions of the Mosin-Nagant produced prior to World War II, most notably the M/39, which was similar to the M/28-30, though with a pistol grip stock. The Finnish Army had chosen not to adopt the M/28-30 used by the Civil Guard as they felt it was too heavy and that its sights were too complicated. Although it may seem a minor point, some Finnish soldiers found the change in the M/39's rear sight, which incorporated the battle sight setting of 150 meters as opposed to 200 meters originally used on the M/28-30, an aid to precision shooting at closer ranges. Very few M/39s were produced before the end of the Winter War, but 96,800 were produced and used during the Continuation War, in which the Finns continued to fight the Soviet Union as allies of the Germans between June 1941 and September 1944. M/39 rifles had a reputation for accuracy, reportedly being required to place three out of five shots into 33mm (about 1.3 inches)

at 100 meters to be accepted. Adapting to the soldier's likes, the bayonet for the M/39 was shorter and of *puukko* style.

During 1943 and 1944, a model designated the M/30 was produced using barrels and parts from weapons captured during the Winter War or from rifles captured by the Germans on the Eastern Front. The Finns continued to re-manufacture Mosin-Nagant rifles into the 1980s; some actions were even used as the basis for the 7.62 Tkiv 85 sniping rifle used by Finnish Defense Forces from the mid-1980s on.

It was the M/28-30 rifle, however, that was the most popular front-line weapon during the Winter War and the Continuation War, though estimates

put production between 1934 and 1941 at only about 40,000, far less than the later M/39. This figure is misleading, however, as it denotes the number of rifles produced as M/28-30s. Actually, a large number of earlier M/28 rifles had also been upgraded to M/28-30 specs. Other earlier versions of M1891 Mosin-Nagant served as well, as Finland attempted to equip as many troops as possible. Although the M/28-30 rifle was highly prized for its accuracy among the members of the Civil Guard, for whom it had been designed, many examples ended up in use by the Finnish Army, a separate fighting force during the Winter War. Although the rifle's accuracy was appreciated, the Army found that it had a tighter chamber, which made it more difficult to fire captured Soviet 7.62x54R ammunition in it. Also, the standard round used by the Finnish Army was the D166 service cartridge, while the M/28-30 had been designed for best accuracy with the lighter D46 and D47 rounds. Still, the M/28-30 served well during the Winter War and Continuation War, though almost half were declared unserviceable by 1951, when only about 22,100 of them remained serviceable.

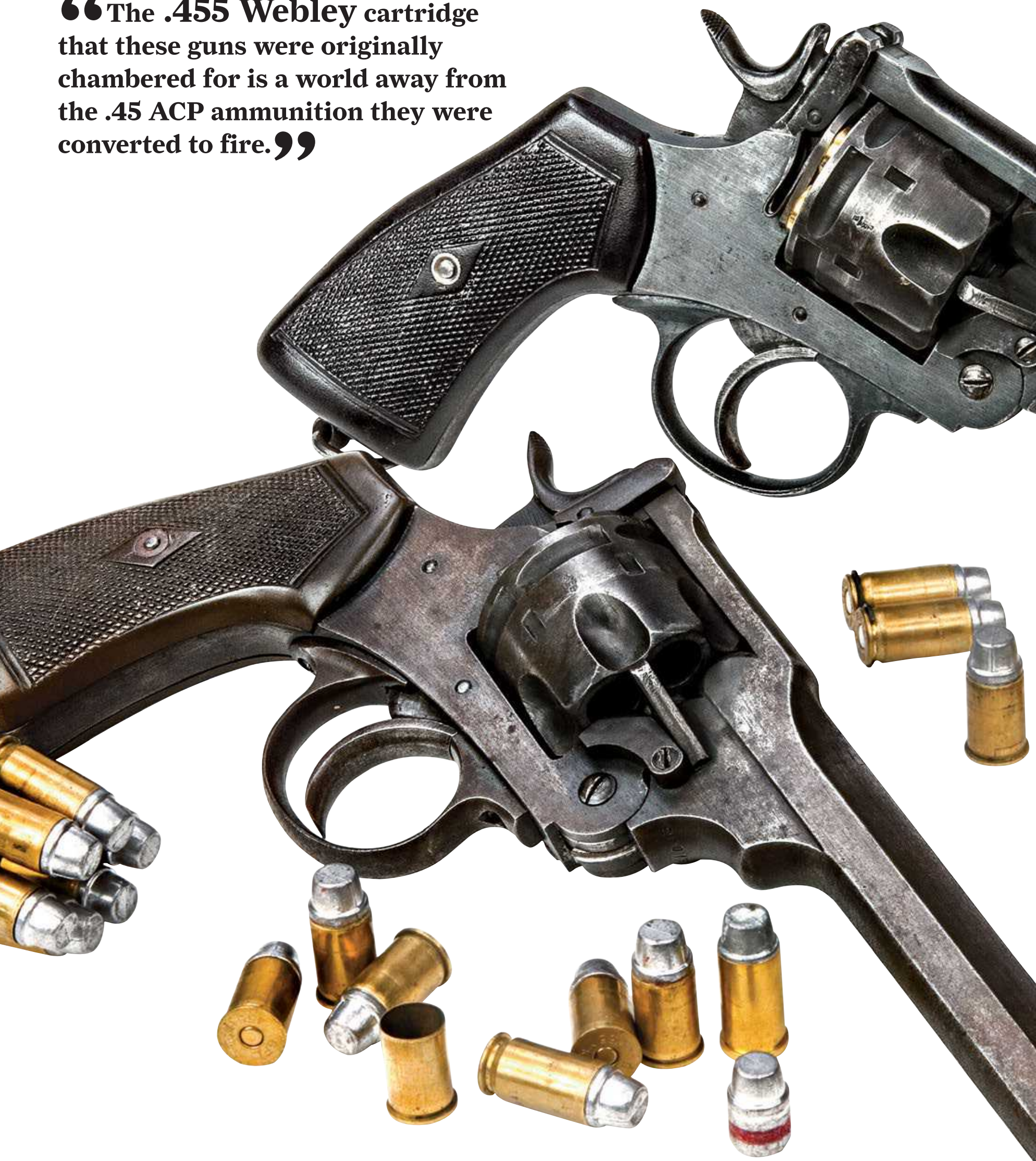
ADDITIONAL FEATURES

The sling mounting points are not swivels but channels in the stock through which the sling strap may be passed. Although this method limits the manner in which the rifle may be carried slung, it makes a lot of sense for the Civil Guard's mission in launching stealthy attacks amid the Finnish forests, as this method is much quieter than the use of sling swivels. The safety was also hard to apply. It requires pulling the knob at the rear of the bolt back while rotating it to move the safety into position at the left of the receiver. But I would speculate that most Finnish Civil Guards carried the rifles empty and chambered a round when needed, though with practice they probably achieved some facility with the safety.

As time has passed, appreciation for the M/28-30 has grown in Finland and elsewhere, and the rifle is now a sought-after collectible. ■

Specifications:	
Finnish Mosin-Nagant M/28-30	
CALIBER:	7.62x53R
BARREL:	27 inches
OA LENGTH:	46.75 inches
WEIGHT:	9.5 pounds (empty)
STOCK:	Arctic birch
SIGHTS:	Front protected post, rear notch
ACTION:	Bolt
FINISH:	Blued
CAPACITY:	5+1

“The .455 Webley cartridge that these guns were originally chambered for is a world away from the .45 ACP ammunition they were converted to fire.”





RELOADING THE WEBLEY

**Handloading tips to ensure
you can safely fire your classic
British top-break revolver!**

By Mike Beliveau

I HAVE BEEN A FAN of Webley's Mk VI top-break revolver since 1964 when I saw the movie *Zulu*. I was only 10 years old at the time, so I had no idea that a revolver made in 1916 had no place in a movie that was set in 1879. I just knew that it was one cool-looking gun. I wanted one, and eventually I found one at an estate sale.

Like most Webley Mk VI revolvers here in the United States, my estate-sale find had a shaved cylinder. After World War II, lots of surplus Webley handguns were imported, but importers were concerned that the .455 Webley chambering would limit the sales of the revolvers among American shooters.

To get around this, they shaved back the rear of the cylinder on a lathe to increase the headspace to allow the Webley to chamber .45 ACP cartridges on moon clips, or .45 Auto Rim cartridges. Since there were already plenty of Smith & Wesson and Colt Model 1917 revolvers around that were chambered this way, shaving the Webley cylinders made these guns more acceptable to mainstream shooters. Unfortunately, it also led to a new set of problems.

The .455 Webley cartridge that these guns were originally chambered for is a world away from the .45 ACP ammunition they were converted to fire. To begin with, the bore diameter of a Webley Mk VI is a nominal .455 inches, though the ones I've slugged were actually .454 inches. The bullet on a .45 ACP cartridge is only .452 inches in

After World War II, many Webley revolvers were imported and converted to fire .45 ACP ammo.

If you have a Webley that has been shaved to accept .45 ACP cartridges in moon clips, you have to reload the .45 ACP rounds to match the lower pressure rating of the .455 Webley.

RELOADING THE WEBLEY



FAR LEFT: Depending on whether or not your cylinder has been shaved, you will either be loading .45 Auto Rim (left), .45 ACP (center), or .455 Webley (right) brass in your Mk VI revolver. Note that the .455 Webley brass is only 0.77 inches long compared to the 0.898-inch length of the .45 ACP case.

LEFT: You can get away with a tight taper crimp on .45 ACP or .45 Auto Rim loads (left) for the Webley. However, .455 Webley loads (right) perform best with a strong roll crimp.

diameter, so .45 ACP rounds, especially jacketed bullets, tend to give only mediocre accuracy in a Webley revolver. But that’s not the biggest problem.

Standard, factory-loaded .45 ACP rounds in the United States generally produce 21,000 pounds per square inch (psi) of chamber pressure, and +P loads run up to 23,000 psi. That is much higher than the pressures Webley cylinders were designed to withstand. The C.I.P., which is the Permanent International Commission for Firearms Testing, rates the .455 Webley round at 13,050 psi, so firing a +P .45 ACP round in a Webley will put a significant overstress on the cylinder walls.

Personally, I think the C.I.P. is too conservative in rating the .455 Webley round, probably in deference to 19th century, black powder-firing Webley revolvers that can chamber the same cartridge as the 20th century Mk VI model. The British government rated the Mk VI at 6 tons copper units of



The author’s well-stocked setup for reloading .455 Webley ammunition uses an RCBS single-stage press, a Uniflow Powder Measure and a Range Master digital scale coupled with a Redding Powder Trickler.

pressure (CUP), or 15,230 psi, which is higher than the C.I.P. rating but still way below the pressure rating for .45 ACP cartridges. Believe me, Webley Mk VI revolvers have failed catastrophically from shooting a steady diet of full pressure .45 ACP ammunition, so caution is a good thing in this case.

But, by handloading, you can make accurate ammunition that is safe to shoot in your Webley revolvers. If you have an un-shaved Webley, you can hand-load .455 Webley ammunition that will outperform the factory-loaded ammunition on the market. But, if you plan to shoot .45 ACP or Auto Rim in



Fiocchi’s factory ammunition used a round-nosed, .454-inch-diameter, 262-grain, soft lead, hollow-based bullet. The author’s handloads throw a .454-inch, 255-grain, hard-cast, lead, semi-wadcutter bullet.

AMMUNITION PERFORMANCE:							
SOURCE	CASE	BULLET DIAMETER	BULLET TYPE	POWDER BRAND	POWDER CHARGE	VELOCITY	ACCURACY
Fiocchi	.455 Webley Mk II	.455	262 hollow base	N/A	N/A	601	2.75
Handload	. 455 Webley Mk II	.454	255 lead semi-wadcutter	Blue Dot	6.8 grains	683	0.50
Handload	. 45 ACP/ Auto Rim	.454	255 lead semi-wadcutter	HP-38	5.1 grains	705	2.50
Bullet weight measured in grains, velocity in fps by chronograph, and accuracy in inches for best five-shot groups at 25 yards.							

“I find that 100-percent density loads burn more consistently than tiny loads of faster-burning powders that move around inside the cartridge case.”

your Webley, handloading is imperative for safe shooting. In this article I'll give you loads for each cartridge.

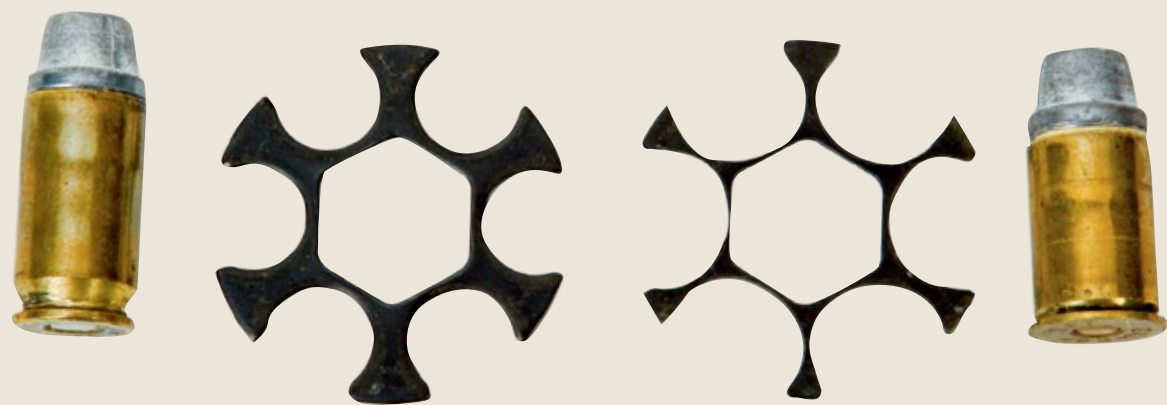
.455 HANDLOADS

In my experience, my .455 Webley handloads are clean-burning and much more accurate than the available factory ammunition. For comparative purposes, I shot a box of newly manufactured Fiocchi ammunition. The average velocity for these rounds was 601 feet per second (fps). My best group with this factory-loaded ammunition measured 2.75 inches across.

For my .455 Webley handloads, I load a .454-inch, 255-grain, lead, semi-wadcutter bullet over 6.8 grains of Alliant Blue Dot powder. I like using Blue Dot because I can use 100-percent density loads, with no airspace between the bullet and the powder. I find that 100-percent density loads burn more consistently than tiny loads of faster-burning powders that move around inside the cartridge case. I used once-fired Fiocchi .455 brass, which takes small pistol primers. This load generates a 12,600 psi chamber pressure, so it should be safe to shoot in all .455 Webley revolvers.

The actual loading procedure I use for .455 Webley rounds is a little more painstaking than my standard procedure. I use an RCBS single-stage press, and I de-prime, size and prime the brass as usual. Then I expand the case mouths and I get ready to charge the cases with powder. Because the .455 Webley Mk II cases are so short, I am very careful with the powder charge. With a short case like this, it's easy to get into an over-pressure situation by going just a couple of tenths of a grain over the maximum charge.

To make sure that doesn't happen, I weigh each charge. First, I set my RCBS Uniflow Powder Measure to throw a charge that is 3/10 of a grain too light. Then I use a Redding Powder Trickler to



If you have a Webley with a shaved cylinder, you can still shoot .455 Webley ammunition by modifying a .45 ACP moon clip to hold the Webley rounds.

Specifications:	
Webley Mk VI	
CALIBER:	.455 Webley
BARREL:	6 inches
OA LENGTH:	11.25 inches
WEIGHT:	38.4 ounces (empty)
GRIP:	Synthetic
SIGHTS:	Front blade, rear notch
ACTION:	DA/SA
FINISH:	Black
CAPACITY:	6

dole out a flake of powder at a time, over the pan of my digital scale, until I reach 6.8 grains of Blue Dot powder. Then I charge the brass. After that, I seat the bullets with a good, solid roll crimp.

This load has been very accurate for me. During the shooting session for this article, my best 25-yard group with this load was 0.5 inches across. Most groups were between 1 inch and 2 inches in diameter. Velocity with this load averages 683 fps, which is certainly hotter than the Fiocchi load, but it is still a mild shooting round in the big Webley.

.45 ACP/AUTO RIM

If you have a shaved cylinder but you would like to shoot real .455 Webley ammunition, it is pretty easy to take a steel full moon clip for .45 ACP and relieve the openings with the sanding drum on a Dremel tool so they can accommodate .455 brass. I did this in

about half an hour, and now I shoot .455 handloads in my shaved Webley all the time because they are wickedly accurate.

If you prefer the convenience of shooting .45 ACP or .45 Auto Rim brass in your shaved Webley, it is a snap to put together safe handloads for it. The longer .45 ACP brass is a bit more forgiving of small variations in the powder charge, so I'm able to dispense with the powder trickler. My Webley load for .45 ACP uses the same hard-cast, .454-inch-diameter, 255-grain, lead, semi-wadcutter bullet as I use in the .455 Webley load. For powder I use 5.1 grains of Hodgdon's HP38, and I light it off with a large pistol primer. This load generates about 14,000 psi of chamber pressure, which is as hot a load as I care to shoot in a Webley Mk VI, and I would not use it in earlier Webley model revolvers.

This load has an average velocity of 705 fps, which is decidedly lower than the typical .45 ACP factory load that typically shoots in the neighborhood of 850 fps. I've been shooting this load for almost 20 years in my Webley Mk VI revolvers, and it has proven to be mild shooting and accurate. During this testing session, my best 25-yard group measured 2.5 inches, and my worst was 3.5 inches across. Which isn't bad for a gun that's almost 90 years old.

So, get your Webley's out of the safe and on the range where they belong with safe, accurate handloads. ■



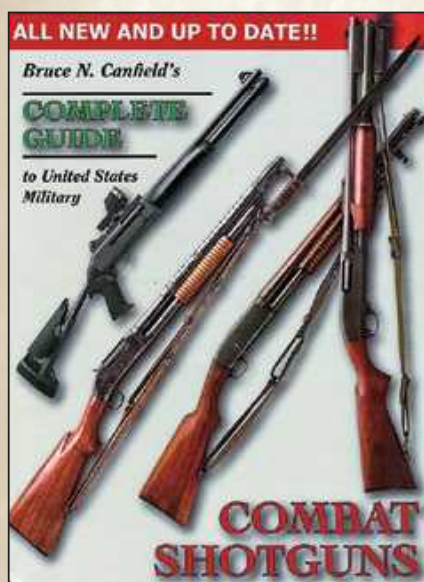
FN BROWNING PISTOLS

In the most recent expanded edition of his *FN Browning Pistols: Side Arms that Shaped World History*, renowned expert Anthony Vanderlinden covers the fascinating history of these storied handguns. Covering the Model 1899, 1900, 1903, 1905, 1910, 1922, Baby Browning and the High-Power, the book provides the reader with an exceedingly thorough take on these extremely influential designs.

The book covers prototypes, salient features, markings, contracts and accessories for each of the pistols. It also provides the stories behind specific samples, for example giving historical biographical

information on the pistols owned by John Browning, President Theodore Roosevelt and King Albert I of Belgium. Other aspects of the book focus on factory history, the development of model variants and the use of pistols in conflicts, including variants made for the German military during the occupation of FN.

Spanning 334 pages, the hardbound book features more than 1,600 color and black and white photos, providing the collector and enthusiast with an incredible reference and resource. MSRP: \$68. For more information, visit fn-browning.com or call 336-394-4138. (Mention *Military Surplus* magazine and get an autographed copy and free shipping.)



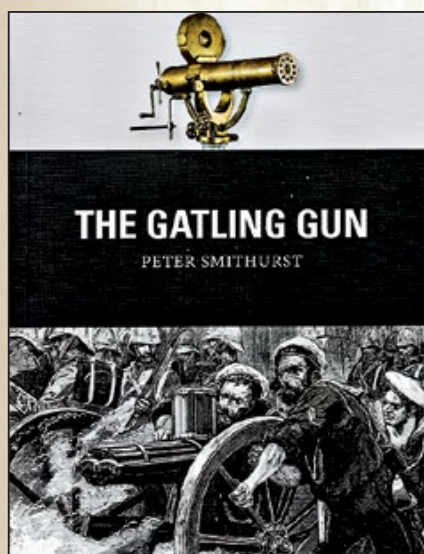
COMPLETE GUIDE TO U.S. MILITARY COMBAT SHOTGUNS

While rifles and pistols may get the majority of the attention when it comes to U.S. military firearms history, the tried-and-true shotgun has been an unsung hero and close compatriot of America's fighting men on battlefields around the world.

In his meticulously researched *Complete Guide to United States Military Combat Shotguns*, Bruce N. Canfield lays out the sometimes obscure but always fascinating story of the uniquely American combat scattergun. Canfield covers the shotgun's history from WWI through Iraq with considerations of who used them and how they performed in combat.

Covering models from the famed Winchester Model 97 through the Mossbergs, Benellis and Remingtons of today, the book details markings, parts, variations and features as well as serial-number data direct from the manufacturers. The book also provides hundreds of detailed photographs so collectors can identify fakes and assembled guns.

This hardcover book, spanning 312 pages and packing in more than 500 illustrations, is a great reference tool for fans of U.S. military shotguns. MSRP: \$50. For more information, call 800-999-4697 or visit gunandwordcollector.com.



THE GATLING GUN

Revolutionizing the nature of battlefield firearms, the Gatling gun influenced the way combat is fought from its introduction in the mid-19th century through to today. In his book *The Gatling Gun*, Peter Smithurst considers not only the fascinating history of the gun, but also its influence.

One of the first practical rapid-fire weapons ever to be used in battle, the multi-barrel, hand-cranked Gatling gun telegraphed the future of high-intensity-fire machine guns and their appearance on the battlefields of World War I. Covering

its 50-year career with the United States, Britain and other forces, Smithurst provides readers with a thoroughly considered take on this amazing piece of battlefield hardware.

The softcover book spans 80 pages with thoroughly researched information, full-color artwork as well as contemporary and close-up photography of the Gatling gun in action. The resulting book is an impressive work that considers not only the origins but also the lasting influence of the formidable Gatling design. MSRP: \$20. For more information, visit ospreypublishing.com.



ALLIED RIFLE CONTRACTS IN AMERICA

While America's amazing industrial might would be fully showcased in its role as the "Arsenal of Democracy" during World War II, it played a very similar yet often overlooked role during World War I. Covering this unique corner of American firearms history is Luke Mercaldo's *Allied Rifle Contracts in America*. In the pages of this work he fully explores American production of foreign military rifles for the Allies during the "Great War."

Due to the crushing effects of trench warfare on not only the men but also their munitions, a number of Allied governments entered into contracts with

American manufacturers to fill in the gaps. Covering the production of Mosin-Nagants and Winchester Model 1895s for Imperial Russia to Model 1889 Mausers for Belgium to the Pattern 1914 rifles made for the United Kingdom, the book also delves deeply into some of the lesser-known contracts as well.

Hardbound and spanning 224 pages, the book provides readers with a unique insight into this segment of American firearms history. MSRP: \$50. For more information, visit fn-browning.com or call 336-394-4138. (Mention *Military Surplus* magazine and get an autographed copy and free shipping.) ■

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